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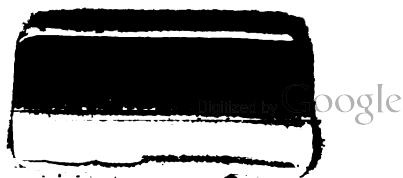
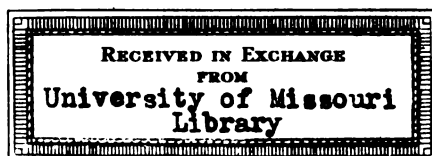
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ONE HUNDRED AND FORTIETH SESSION

1917

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VOL. VI.—No. 15—PART 1

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ALBANY  
J. B. LYON COMPANY, PRINTERS  
1917

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# REPORT

OF THE

## PUBLIC SERVICE COMMISSION

FOR THE FIRST DISTRICT

OF THE

STATE OF NEW YORK

For the Year Ending December 31, 1916

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Vol. I

(Appendices in Separate Volume)

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TRANSMITTED TO THE LEGISLATURE JANUARY 10, 1917

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1917



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## IN SENATE

JANUARY 10, 1917

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### Report of the Public Service Commission for the First District

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NEW YORK, *January 8, 1917.*

Honorable EDWARD SCHOENECK, *President of the Senate:*

Honorable THADDEUS C. SWEET, *Speaker of the Assembly:*

SIRS:— The Public Service Commission for the First District of the State of New York herewith transmits to the Legislature its report for the year ended December 31, 1916.

Respectfully,

OSCAR S. STRAUS,  
*Chairman.*

WILLIAM HAYWARD,  
HENRY W. HODGE,  
TRAVIS H. WHITNEY,  
CHARLES S. HERVEY,  
*Commissioners.*



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## CHAPTER I

### GENERAL

NEW YORK CITY, *January 8, 1917.*

*To the Honorable, the Legislature of the State of New York:*

Conforming to the provisions of the Public Service Commissions Law, the Public Service Commission for the First District herewith presents to the Legislature its tenth annual report, covering the year ended December 31, 1916.

On January 6, 1916, Robert C. Wood, who had been a member of the Commission since May 29, 1914, presented his resignation to the Governor who appointed Henry W. Hodge as his successor. Mr. Hodge qualified and took office on January 7, 1916. The unexpired term for which he was appointed ends January 31, 1919.

On February 7, the Governor appointed Travis H. Whitney as a member of the Commission to succeed J. Sergeant Cram for the term ending January 31, 1921. Commissioner Whitney qualified and took office on March 17, 1916.

On December 27, 1915, Commissioner George V. S. Williams, who had been a member of the Commission since April 1, 1912, presented his resignation to the Governor to take effect January 31, 1916. On February 7, 1916, the Governor appointed Charles S. Hervey as successor to Mr. Williams. Commissioner Hervey qualified and took office on March 17, 1916. The unexpired term for which Commissioner Hervey was appointed ends January 31, 1917.

On March 20, 1916, the Commission appointed James Blaine Walker as Secretary. He succeeded Commissioner Travis H. Whitney in that office. At the time of his appointment as Secretary, Mr. Walker was an Assistant Secretary of the Commission.

The Legislature of 1916 enacted several amendments to laws affecting the Public Service Commissions. Five of these measures have particular reference to the activities of the Commission for

the First District. One of the amendments provided that the expenses of the Commission for the First District incurred in its capacity as a regulatory body become a State charge on and after July 1, 1917. Another, technical in its nature, added Bronx County to the list of counties comprised in the First District. Still another change amended Section 4 of the Public Service Commissions Law, by providing that the Public Service Commission may maintain an action for penalties or forfeitures for a less sum than \$5,000; a fourth amended Section 1 of Chapter 125 of the Laws of 1906, by extending the provisions of the so-called eighty-cent gas law to the 30th and 31st Wards of Brooklyn. The fifth amendment required gas companies manufacturing or selling gas in New York city to meter all gas used in the conduct of their business.

The Commission, which was organized on July 1, 1907, performed during the year 1916, more work than in any other one year since its creation. The largest part of this work was done in its capacity as a rapid transit board for The City of New York, and included the awarding of construction contracts of various sorts for the new lines of the Dual System, the supervision of construction work on contracts previously let and the preparation of the final plans for the construction of the Dual System. This work is performed under Chapter IV of the Laws of 1891 and Amendments, known as the Rapid Transit Act.

The regulation and supervision of common carriers and other public service corporations placed under its jurisdiction by the Public Service Commissions Law were also continued by the Commission during the year. It also performed certain duties under the Railroad Law, and other statutes.

The work of the Commission in its function of a rapid transit board was more extensive in 1916 than in any previous year, although the sum total of contracts awarded on rapid transit work was slightly less in number and in value than in the year 1915. There was more construction work, however, in progress than in 1915.

Contracts awarded during the twelve months just closed were in the aggregate \$24,360,267.47, there being at the end of the year under way or completed, contracts on the City-owned lines of the

Dual System, exclusive of the First Subway, amounting to \$196,340,013.34. Of the contracts awarded during the year, nine were for what is commonly termed general construction work and involved the building of subways and elevated extensions of subways, six for supplies of track materials, eight for station finish, five for track installation and sixteen miscellaneous contracts. The construction contracts awarded amounted to \$20,741,543, track materials, \$198,491, station finish \$1,578,357.21, track installation \$992,234.55, miscellaneous contracts \$849,641.71.

The report of the Auditor shows that the running expenses of the Commission during 1916 amounted to about \$3,650,000, of which approximately \$3,000,000 was assigned to rapid transit work, that is, to the payment of engineers and other expenses necessarily incurred in the preparation of plans, awarding of contracts and supervision of construction. It is provided in the Dual System contracts that the expenses of the Commission chargeable to rapid transit work shall be included in the cost of construction on the new lines; that is, they become a part of the City's capitalization upon which the operating companies must make interest and sinking fund payments. There has been an annual increase in the expenses of the Commission during the last few years due almost entirely to the expansion of its engineering staff, made necessary by the construction of the Dual System. However, the "peak" of this work was reached in 1916, and it will, from this time on, as the new lines are completed, show a decrease. The reduction in the engineering force has already begun and hereafter the rapid transit expenses of the Commission will be a decreasing factor.

It is expected that the expenses of the Commission for 1917 will be in the neighborhood of \$3,500,000, of which about \$2,850,000 will be paid by The City of New York on account of rapid transit expenses, while of the remaining \$650,000 which represents the estimated expenditures for regulation purposes approximately one-half must be met by the State under the act of the Legislature of 1916, referred to above, and approximately one-half by the City, for the regulatory expenses for the first six months of 1917. After July 1, 1917, all regulatory expenses of the Commission will be borne by the State. These expenses are

incurred in the performance of the duties imposed upon the Commission by the Public Service Commissions Law, the Railroad Law and other statutes.

There were on the pay-roll of the Commission at the end of the year 2,025 employes. Of this number about 1,678 were engaged exclusively on rapid transit work and the remaining 347 in regulation work. The total at the end of 1915 was 2,384. As the number of employes of the Commission assigned to regulatory work has not changed substantially from year to year, it at once becomes apparent that the engineering force of the Commission has been materially decreased during the year. Under the regulations of the Commission efficiency records are maintained, and they are used as guides in reducing the force. The efficiency records taken in connection with the length of service of the employes concerned govern the Commission in laying off men as the construction work decreases with the completion of parts of the Dual System.

#### RAPID TRANSIT

Several portions of the Dual System were placed in operation during the year, the new lines adding materially to transportation facilities of the city and affording relief at several points of great congestion. These new facilities included the New Utrecht Avenue Elevated line in Brooklyn, opened for most of its length; the Fourth Avenue Subway extension in Brooklyn from 65th to 86th streets; portions of the Queensboro Subway, and third tracks upon elevated lines in Manhattan, The Bronx and Brooklyn.

During the year 1917, the people of New York City will realize very largely from their investment in the Dual System of rapid transit. Every effort is being made by the Commission to have all the principal trunk lines of the Dual System in operation by the end of the year. Of the approximate 345 track miles which will be added to the transit facilities of New York through the new system, upwards of ninety are now in operation. Of the lines which it is expected to place in operation through the coming year, the most important, from the standpoint of the relief which will be afforded to the extreme conditions of congestion now existing,

are the extensions of the First Subway south from 42d street through Seventh avenue and other thoroughfares to the Battery, and northward through the Lexington Avenue subway and its extensions in The Bronx; and the operation of the Broadway subway in Manhattan. The extensions of the First Subway, which will complete the east and west side trunk lines, are for operation by the Interborough Rapid Transit Company, while the Broadway subway in Manhattan is for operation under the New York Municipal Railway Corporation, (Brooklyn Rapid Transit).

Another line which will be placed in operation early in 1917 is the White Plains Road extension of the Lenox Avenue branch of the First Subway, for operation by the Interborough Rapid Transit Company. This extension is a three-track elevated railroad branching off from the Lenox Avenue line just south of the present terminus at 180th street (Bronx park), and running over private property to White Plains road and along that thoroughfare to 241st street, near the northern city line.

The two new elevated lines in the Borough of Queens will be placed in operation during the year. These consist of three-track elevated railroads extending from the Queensboro Bridge Plaza station north to Astoria and east to Corona, respectively.

It is possible that the Flatbush Avenue-Eastern Parkway extension of the first subway in Brooklyn may be operated during 1917. This line is a four-track structure, double-decked under Eastern parkway, and constructed in connection with two tracks of the New York Municipal Company under Flatbush avenue. Eventually this line will be extended as an elevated structure along East 98th street and Livonia avenue to New Lots road. Bids for the construction of this elevated portion will shortly be received by the Commission.

In addition to the above, it is expected the connection of the New Utrecht Avenue Elevated line from Twenty-fifth avenue with the new Coney Island terminal, together with the completed express track will be ready for operation during the year. As stated elsewhere, the major portion of the New Utrecht Avenue line was placed in operation in June, 1916.

The elevated portion of the Gravesend Avenue line (Culver Rapid Transit Railroad) from Tenth avenue and 32d street to

Avenue X will probably be placed in operation early in 1917. The Culver line is a three-track railroad, connecting with tracks in the 38th street cut at 37th street and Tenth avenue; it extends thence over private property to Gravesend avenue; along that thoroughfare, Shell road and West 6th street to Surf avenue, Coney Island.

Sufficient progress is being made on the construction of the extension of the Second Avenue Elevated line in Manhattan, across the Queensboro bridge, to warrant a belief that through service from the elevated over the Queens lines may be had early in the Summer. This is a company-owned line.

Numerous additional elevated railroad facilities on company-owned lines will be placed in operation during the year. In the early part of 1917 it is believed the Jamaica Avenue Elevated extension of the Broadway line from Crescent street, Cypress Hills, to Cliffside avenue, Jamaica, will be placed in operation as far as Greenwood avenue, and a few months later to the terminus at Cliffside avenue. The express track of the Myrtle Avenue line between Broadway and Wyckoff avenue will be ready for operation in April.

At the close of the year, contracts for eighty-one of the eighty-seven contract sections upon City-owned lines for the Dual System had been awarded. Only six yet remain to be let and practically all of these should be awarded by the end of the year.

During the year, changes were made in the First Subway, costing \$22,600. This work included new entrances and exits, etc., at various stations. The total cost of the First Subway to the City up to December 31, 1916, was \$56,464,038.88. This covers the construction cost and the cost of the permanent improvements of the subway structure from Atlantic and Flatbush avenues, Brooklyn, to the present termini of the two branches in The Bronx. The Auditor's Report shows that up to December 31, 1916, The City of New York had also expended for construction on City-owned lines under Contract No. 3 with the Interborough Rapid Transit Company, \$44,156,752.37, for construction on City-owned lines under Contract No. 4 with the New York Municipal Railway Corporation, \$67,245,981.97, making a total investment of the City in rapid transit railroads up to the close of the year, \$167,866,773.22.

## CONTRACTS AWARDED IN 1916

The Commission awarded new contracts as stated above to the amount of \$24,360,267.47 during the year. These contracts were as follows:

To Booth & Flinn, Limited, for Section No. 1 of Route No. 8, \$2,528,618.25.

To Degnon Contracting Company, for Section No. 2 of Route No. 8, \$1,972,349.

To Booth & Flinn, Limited, for Section No. 3 of Route No. 8, \$6,639,023.50.

To Mason & Hanger Co., Inc., for Section No. 4 of Route No. 8, \$1,847,174.40.

To McArthur Bros. Co., for Section No. 5 of Route No. 8, \$1,336,949.85.

To Thomas Dwyer, for Section No. 1-A of Route No. 49, \$42,268.

To P. McGovern & Company, for Route No. 61, \$4,194,797.

To Degnon Contracting Company, for Section No. 1-B of Route No. 12, \$810,265.

To Degnon Contracting Company, for Section No. 2-A of Route No. 12, \$1,370,098.

To D. C. Serber, for station finish on Sections Nos. 1 to 4 inclusive, of Route No. 5, \$344,716.35.

To John B. Roberts, for station finish on Sections Nos. 7 to 11 inclusive, of Route No. 5, \$278,182.66.

To A. W. King & Company, for station finish on Sections Nos. 12 to 15 inclusive, of Route No. 5, \$316,091.06.

To Serber-Stander Company, Inc., for station finish (three stations) on Routes Nos. 4 and 36 and 20, \$149,324.75.

To Snare & Triest Co., for construction of concrete track floors and platforms Route No. 49, Section Nos. 1 and 2, \$52,654.

To Thomas J. Waters Co., for station finish (Grand Central Station) Route No. 26, Section No. 1, \$22,648.17½.

To Degnon Contracting Company, for station finish (Hunters Point Avenue Station) on Route No. 50, \$32,219.21½.

To Louis Wechsler, for station finish for Sections Nos. 5, 6 and 6-A of Routes Nos. 4 and 38 and Route 43, \$382,521.

To Empire Construction Company, for installation of tracks on Routes Nos. 5, 16 and 43, \$276,433.55.

To T. H. Reynolds Contracting Co., for installation of tracks on Routes 4 & 36 (Sections 1 to 4 inclusive), 5 (Sections 1 & 4 inclusive), 20 (Section 2) and 33 (Sections 1, 2 and 3), 4 & 36, \$288,400.

To Kaufman & Garcey, for installation of tracks on Route No. 49, \$103,680.

To Engel & Hevenor, for installation of tracks on Routes Nos. 4 & 38 (Sections 1-A, 1 to 6-A inclusive), 48 (Sections 1, 2 and 3) and 33 (Section 3), \$229,440.50.

To Coast & Lakes Contracting Corporation, for installation of tracks on Route No. 18, \$94,280.50.

The following are contracts for track materials:

To Eppinger & Russell, for treated ties and timber, \$5,500.

To Ramapo Iron Works, Special Work Order No. 7, \$85,889.

To Pennsylvania Steel Company, Special Work Order No. 8, \$65,316.

To Ramapo Iron Works, Special Work Order No. 9, \$29,859.

To Ramapo Iron Works, Special Work Order No. 10, \$11,427.

To Vulcan Rail & Construction Company, noiseless track device, \$500.

To Foran Foundry & Manufacturing Company, tie plates, \$2,066.96.

The following are miscellaneous contracts awarded:

To J. W. Masury & Son, "Q" Varnish, \$2,265.

To Chase Roberts & Company, "C" Varnish, \$2,736.

To W. G. Stearns, cable feed pipe for Sections Nos. 8, 9, 10, 11 on Route No. 5, \$11,075.

To John B. Roberts, stairway reconstruction, \$1,858.

To Underpinning & Foundation Company, stairways and side walls for Section No. 2-A of Route No. 5, \$9,950.

To Underpinning & Foundation Company, track floor for Section No. 2-A of Route No. 5, \$3,500.

To Snare & Triest Co., stairway removal, \$2,160.

To Samuel Finkelstein, numerical station marking, \$1,844.75.

To Beaver Engineering & Contracting Company, for 44th Street Duct Line, \$38,918.50.

To T. H. Reynolds Contracting Company, for 157th Street Duct Line, \$10,307.

To Empire Construction Company, for 153rd Street Duct Bench, \$9,791.25.

To Thomas Crimmins Contracting Company, relocation of trolley tracks for Section No. 1 of Routes Nos. 36 and 37, \$2,900.

To Post & McCord, Inc., removal of "L" column for Section No. 2 of Routes Nos. 36 & 37, \$1,835.

To H. C. Stowe Construction Company, signal towers on Routes Nos. 16, 18, 36 & 37, \$110,650.71.

To Thomas J. Buckley Construction Company, for 180th Street Storage Yard on Route No. 18, \$269,222.50.

To Thomas J. Buckley Construction Company, for 239th Street Storage Yard on Route No. 18, \$372,893.

#### INSPECTION OF MATERIALS

During the year materials for use in subway construction were inspected by the engineers of the Commission to a total estimated at \$14,500,000. While the grand total for the year was not quite equal in value to that of 1915, the variety of materials which were inspected increased, largely due to the character of the station finish contracts and special track work. The territory covered by the work of inspection embraced 329 manufacturing plants located in 194 cities and towns and 17 states.

Every unit of steel, cement, paint, brass, bronze, lumber, rubber, asphalt, asbestos, felt and the various other materials entering into the construction of subways and elevated lines must pass a rigid inspection before being used. Much of the inspection is carried on in New York City, but a great deal of it must be done in distant states, and on this account the Commission locates inspectors in the principal centers of the steel, cement and lumber producing communities.

Not only the materials purchased by the City of New York for City-owned lines, but those purchased by the Interborough Rapid Transit Company and the New York Municipal Railway Corporation for their construction work are included in these tests. The inspections included 126,300 tons of structural steel inspected at the mills, 115,800 tons inspected at the shops, and inspections of more than one million barrels of cement.

## THE LABOR LAW

One question involving the construction to be placed upon certain sections of the Labor Law was brought before the Commission during the year. The point was raised on behalf of labor organizations, that contracts for the equipment of the new rapid transit lines which are awarded by the two operating companies should be governed by Section 3 of the Labor Law, relating to the prevailing rate of wages and hours of employment on public work.

William D. McNulty, representing the Inside Electrical Workers of Greater New York, brought the matter to the attention of the Commission in March. He stated that if equipment contracts came within the clause as to public work, violations of the Labor Law were frequent on the part of the contractors. The matter was referred to Commissioner Hayward, and later a definite application was placed before the Commission, that inclusion of Section 3 of the Labor Law in certain contracts to be made by the Interborough Rapid Transit Company for equipment on the Nostrand Avenue line in Brooklyn, be directed by the Commission as a prerequisite of approval of these contracts. The Commission, however, denied Mr. McNulty's application, and it was informally announced later that labor organizations would test the matter in the courts.

## STRIKES ON RAPID TRANSIT WORK

Two labor disputes occurred early in the year in connection with the rapid transit work of the Commission.

On April 3, laborers, timbermen and timbermen's helpers quit work for fifteen days. The strike was general in its nature, and affected, more or less, all work under contract. All three classes of labor demanded an increase in the wage schedule.

On April 7, a conference was held at the offices of the Commission without a settlement being reached. Later, Chairman Oscar S. Straus, believing that an amicable settlement might be made, suggested to both the contractors and the representatives of the Tunnel and Subway Constructors' International Union that they meet at his office to determine whether a settlement could not be reached. Both sides agreed, and the contractors, as indicating their willingness to coöperate, made a tender of a wage

increase which Chairman Straus was authorized to present to the workers.

A conference was held on April 12, and an agreement was drawn up whereby a scale of wage increases was approved by the contractors and certain concessions made by the Union members. The agreement was signed on April 18, and practically all of the strikers returned to work on the following day.

Chairman Straus also exercised his good offices in effecting a termination of the strike which was begun early in April by members of the International Compressed Air and Foundation Workers Union of the United States and Canada employed on East River tunnel work. Some 800 members of the Union quit work following a refusal of the contractor to modify the working agreement between the contracting men entered into in August, 1915. When conferences, which had occurred between the contracting company and the Union members failed of result, Chairman Straus called representatives of the Union and the contractors to his office together with Hugh Frayne, general organizer of the American Federation of Labor. An agreement was reached under which the men returned to work on May 3. Certain wage increases were granted to the men conditioned upon the amount of air pressure prevailing in the tunnels.

#### STREET RAILROAD STRIKES

During August and September, two serious strikes affected surface car operation in all the boroughs of the City except Brooklyn. The second strike also affected the employes of the elevated lines in Manhattan and The Bronx, and the employes of the First Subway.

The first strike followed labor difficulty on the lines of the Third Avenue system in Westchester County, beginning late in July. It spread to the lines of the Third Avenue system in The Bronx and later to the lines of the same system in Manhattan. The employes of the New York Railways Company also became involved in the strike, together with the employes of the New York and Queens County Railway Company and of the Staten Island surface lines. The employes of the Brooklyn surface car system did not join the strike. This strike was settled through the work of the Commission, as related in detail in Chapter V.

Within a very short time after the conclusion of the strike, it became apparent that serious differences had arisen between employes of several of the lines and the managers of those lines as to the method of applying the agreements which had brought about a settlement of the first strike. Various conferences arranged between the managers and the men of the several lines failed to adjust these differences. The disaffection continued and on September 6, some of the employes of the Interborough Rapid Transit Company on both its subway and elevated lines went on strike.

On September 6, also, the employes of the New York Railways Company struck for a second time, followed by the employes of the Third Avenue lines in Manhattan on the following day, and by the employes of the Second Avenue and Bronx lines on September 10. Employes of the New York and Queens County Railway struck on September 19 for a second time. Employes of the Staten Island lines did not join the second strike. As in the previous strike none of the Brooklyn lines was involved.

Immediately after the strike against the Interborough Company was called, the Commission resumed its hearings, inviting Mayor Mitchel as co-underwriter with Chairman Straus of the agreement of August 6, to sit with the Commission. Various witnesses were examined and on September 12, Chairman Straus presented a statement on behalf of the Commission and the Mayor containing certain specific recommendations. Other hearings were held, and on September 15, the Mayor again sitting with the Commission, Chairman Straus presented a statement indicating that the men on the Third Avenue system had violated the compact of August 6, and calling upon them to return to work.

A more complete description of the participation of the Commission in the effort to end this difficulty will be found in Chapter V of this report, together with a letter from the Chairman to Governor Whitman and statements made by the Commission on September 12 and September 15. The Commission later will recommend appropriate legislation in this connection.

#### FINANCIAL RETURN FROM DUAL SYSTEM

On August 29, the Interborough Rapid Transit Company paid to the Comptroller of The City of New York the sum of \$8,584.73 as rental under the certificate for the third-tracking of the lines

of the Manhattan elevated system. This was the first financial return received by The City of New York from the operation of new rapid transit lines under the Dual System contracts. The elevated certificate granted to the Manhattan Company provides that the company pay to the City two per cent of the increased receipts of such stations as are served by express trains. The above sum covered operation on the third tracks from January 17 to July 1, 1916.

#### GRADE CROSSINGS

An appropriation of \$750,000 for grade crossing elimination in the First District during the year 1917 is respectfully requested by the Commission. A liberal appropriation is important in view of the necessities. The Legislature of 1916 made no appropriation. The Legislature of 1915 set aside \$200,000 for grade crossing removal. For the three years prior to that time, the Legislature either failed to make appropriations for this purpose or such as were made met with gubernatorial veto. If the Legislature sees fit to make the appropriation of \$750,000 requested by the Commission, elimination to the amount of \$3,000,000 will be possible, inasmuch as one-fourth of the total cost will be provided by The City of New York and one-half by the railroad company. Previous appropriations from the State have made possible elimination work to cost \$4,368,746, a large proportion of which is already completed and the remainder approaching completion. There is at the present time a small balance available out of funds previously appropriated, of about \$300,000. Work under contemplation will practically exhaust these funds and new work, which is regarded by the Commission as being peculiarly urgent, cannot be undertaken unless additional sums are provided for the purpose.

A bill authorizing the installation and maintenance of cautionary approach signs and other protection at grade crossings will be presented to the Legislature during the year. This measure is the outgrowth of the work of the National Association of Railway Commissioners in the effort to provide uniform protection at grade crossings throughout the United States. The several proposals

involved in the recommendation of this association have been approved by the American Railway Association and the American Automobile Association. The several recommendations are cordially approved by this Commission. A more detailed report of the Commission's work in regard to grade crossings will be found in Chapter IV of this volume.

### REGULATION OF PUBLIC SERVICE CORPORATIONS

The supervision and regulation of the operations of common carriers, gas and electric companies and other corporations placed under its jurisdiction by the Public Service Commissions Law were continued by the Commission during the year. At the close of 1916 there were under the jurisdiction of the Commission 103 corporations, of which seventy-three were operating companies and thirty lessor companies. Some jurisdiction is also exercised by the Commission over a few inchoate and dormant companies which still seem to maintain a corporate existence.

In addition, there are some holding companies and several trunk line railroads entering the City of New York which come within the jurisdiction of the Commission as to certain special matters.

Of the 103 corporations (an increase of one over the year previous) seventy-one are common carriers or transportation companies, including 59 street and electric railroads, nine steam railroads, two baggage transfer companies, and one stage coach company; thirty-two are gas, electric and steam companies, as follows: Sixteen gas companies, three gas and electric companies, ten electric light and power companies, two electric conduit companies, and one steam company.

The increase of one represented the addition of a new electric light and power company. The total capitalization of the 103 corporations, represented by their outstanding stocks and bonds, was \$1,432,921,132, an increase of \$107,647,584.

Of this total of stocks and bonds, seventy-one transportation companies had \$997,362,003, and the thirty-two gas, electric and steam companies \$435,559,129. There is included in this summary as a part of the transportation figures the issues of corporate stock of The City of New York for rapid transit purposes ap-

proximating \$90,000,000. Corporate stock is another name for New York City bonds.

The following table gives the number and capitalization (outstanding stocks and bonds) of the several classes of corporations making up the seventy-three operating and thirty lessor companies under the jurisdiction of the Commission for the year 1916; the table also shows totals for the two classes of securities, excluding duplications.

**NUMBER AND CAPITALIZATION OF PUBLIC SERVICE CORPORATIONS  
OF THE FIRST DISTRICT**

	No. of Companies	Capitalization
Street and electric railways.....	59	\$958,723,641
Steam railroads .....	9	37,458,362
Baggage and transfer companies.....	2	1,130,000
Stage coach companies.....	1	50,000
Total common carriers .....	71	997,362,003
Total excluding duplications .....		930,709,272
Gas companies .....	16	248,552,522
Gas-electric companies .....	3	5,745,000
Electric light and power companies.....	10	154,864,651
Electric conduit companies .....	2	18,302,000
Steam companies .....	1	8,094,956
Total light, heat and power.....	32	435,559,129
Total excluding duplications .....		282,991,912
Grand total .....	103	\$1,432,921,132
Grand total excluding duplications.....		1,213,701,184

In this summary The City of New York is included as a proprietary railroad corporation which has invested approximately \$90,000,000, represented by corporate stock, in rapid transit subways already in operation.

In the absence of definite information respecting the amount of capital actually invested prior to the creation of the Public Service Commission, this statement is based upon the par value of securities outstanding, including stocks, bonds, and other long-term debt. There is included this year non-negotiable permanent debt of subsidiary companies to the controlling or other affiliated companies in the same system, but separate totals have been made which exclude these and other intercompany holdings, amounting in the case of common carriers to approximately \$67,000,000, and

in the case of light, heat and power companies to approximately \$153,000,000.

The increase of \$107,647,584 for the year is in part due to the inclusion of non-negotiable permanent debt of subsidiaries to the controlling or other affiliated companies in a particular system, but is due chiefly to the issues of three companies, namely, the Interborough Rapid Transit Company, \$45,355,000, the New York Municipal Railway Corporation, \$20,000,000, and the Consolidated Gas Company, approximately \$25,000,000.

#### SECURITY ISSUES AUTHORIZED

The Commission during 1916 authorized the issues of securities by public service corporations in the amount of about \$17,000,000, as follows:

Brooklyn Eastern District Terminal, stock.....	\$110,000
Manhattan Railway Company, bonds.....	5,523,000
New York Connecting Railroad Company, bonds....	8,000,000
Kings County Electric Light and Power Company, bonds. . . . .	2,500,000
Kings County Lighting Company, bonds.....	675,000
Total. . . . .	<u>\$16,808,000</u>

The amount applied for by these companies was \$17,694,000, the difference lying in the amount authorized for the Manhattan Railway Company which applied for a total of \$6,409,000 covered by two applications, one of which was granted only in part. The Commission since its organization, July 1, 1907, to December 31, 1916, has approved securities to a total of \$651,967,477.64. The total amount of the applications for such authorization was \$836,358,157.48. Of this amount \$165,285,736.12 was disallowed. A total of applications amounting to \$9,244,000 were withdrawn, and applications aggregating \$9,860,943.72 were pending at the end of the year. A more detailed report of the work of the Commission in respect of regulation of security issues will be found in Chapter VII of this volume.

## COMPLAINTS, MEETINGS AND HEARINGS

During the year the Commission received 6,119 complaints, an increase of 387 over the year 1915. Of the complaints received, 1,792 related to transportation matters, and 4,327 to gas and electric matters. Included, however, in the gas and electric complaints were 2,823 applications for test of gas meters and 771 applications for test of electric meters, so that the informal complaints in relation to service conditions not involving tests of meters number 733. The Commission's experts tested during the year 368,994 gas meters and 478 electric meters. Since the creation of the Commission, July 1, 1907, it has tested a grand total of 3,457,149 gas meters and 5,469 electric meters.

The Commission considered 315 formal cases during 1916, of which only eighty-two remained open at the end of the year. The total number of hearings held in these cases was 438. The Commission held 129 meetings, of which forty-eight were stated meetings, seventy adjourned meetings, and eleven special meetings.

The following tables show the number of cases considered during the year 1916 and the years preceding it, together with the nature of the cases:

## CLASSIFICATION OF FORMAL CASES BEFORE THE COMMISSION FROM JULY 1, 1907, TO DECEMBER 31, 1916

Subject Matter of Cases	Number considered	Number open at end of 1916
Applications for approval of stocks, bonds, etc. ....	162	6
Applications for certificates of convenience and necessity.....	23	.....
Applications as to exercise of franchises and rights.....	60	.....
Applications for approval of miscellaneous franchise rights..	19	1
Applications for approval of leases and contracts.....	72	4
Applications as to acquisition of corporate stock.....	29	.....
Applications as to abandonment of routes.....	23	.....
Applications as to grade crossings.....	50	6
Applications for approval of discontinuance and relocation of stations .....	24	.....
Applications for approval of change of motive power.....	11	.....
Miscellaneous applications .....	38	.....
Cases on complaint:		
Facilities, service and equipment.....	285	9
Rates or transfers.....	99	6
Grade crossings.....	6	.....
Cases on motion of the Commission:		
Facilities, service and equipment.....	658	37
Rates or transfers.....	75	4
Grade crossings .....	101	4
Filing information or investigations.....	284	5
Totals .....	2,037	82

## SUBJECT MATTER OF CASES, 1916

	Number considered	Number open at end of year
Applications for approval of stocks, bonds, etc. ....	23	6
Applications for certificates of convenience and necessity....	2	.....
Applications as to exercise of franchises and rights.....	3	.....
Applications for approval of miscellaneous franchise rights..	8	1
Applications for approval of leases and contracts.....	10	4
Applications as to acquisition of corporate stock.....	2	.....
Applications as to abandonment of routes.....	1	.....
Applications as to grade crossings.....	14	6
Applications for approval of discontinuance and relocation of stations .....	1	.....
Applications for approval of change of motive power.....	.....	.....
Miscellaneous applications .....	6	.....
Cases on complaint:		
Facilities, service and equipment.....	39	9
Rates or transfers.....	11	6
Grade crossings .....	.....	.....
Cases on motion of the Commission:		
Facilities, service and equipment.....	129	37
Rates or transfers .....	15	4
Grade crossings .....	15	4
Filing information or investigations.....	36	5
Totals .....	315	82

## GAS AND ELECTRIC CORPORATIONS

The latest figures available for gas and electric companies are for the year ended December 31, 1915, the fiscal year for gas and electric corporations being synchronous with the calendar year. Gas companies in the First District during that year sold 42,539,-668,000 cubic feet of gas and received from sales \$34,768,078. This was at the average rate of 81.73 cents per one thousand cubic feet. In the same year the electric companies sold 727,004,884 kilowatt hours, and received from sales \$34,936,019. The gas and electric companies combined paid aggregate dividends of \$14,197,809, and together showed an accumulated surplus of \$67,790,494. Receipts from gas sales were equivalent to about \$6.32 per capita, and the receipts from sales of electric current about \$6.35 per capita. The grand total of money paid to transportation, gas and electric light companies was \$168,332,282, almost \$10,000,000 more than was paid for the same commodities in the year previous and represented a per capita payment of approximately \$30.60 for the twelve months for transportation, gas and electric service. In

Chapter VI will be found a full report of the Commission's work in regulating gas and electric corporations.

### TRANSPORTATION CORPORATIONS

The street railroads operating within the City carried during the year ended June 30, 1916, 1,898,735,615 passengers as against 1,807,632,726 passengers for the year 1915; an increase of 91,102,889, as against a decrease of 5,571,630 in 1915. The latter year showed the first decrease in the eight years of the Commission's existence. The decrease was unquestionably due to the bad business conditions in New York City at the time, as the increase for 1916 which is the largest recorded with two exceptions for sixteen years, reflects the improved business conditions during that year.

The traffic has grown more than 100 per cent in sixteen years; passengers carried in the year 1900 having been 846,353,058. Street railway travel increases at a much more rapid rate than population, as is shown by the statistics of fares collected, which revealed that in 1916 there were 356 fares collected per capita as against 246 in 1900, 152 in 1880, and 43 in 1860.

The companies' receipts from passenger fares amounted to \$93,176,216 for 1916 as against \$88,783,012 for 1915, the increase again indicating improved business conditions. The thirty-six operating companies reported an accumulated surplus of \$19,752,604 at the end of the year. There was an increase in track mileage from 1,730 miles in 1915 to 1,771 miles in 1916, and also an increase in the passenger car miles operated. The greatest traffic increase for the year was shown upon the First Subway, where a total of 371,505,318 passengers was carried, an increase of 25,919,569 over 1915. The combined lines of the Brooklyn Elevated Railroad system showed an increase of 26,667,600 passengers, while the elevated lines in Manhattan increased by 10,454,279 passengers. Estimating the population of New York City at 5,500,000, the street railroad fares registered about \$16.94 per capita. See Chapter V for the full report on the regulation of transportation corporations.

## PUBLICITY AND DEMONSTRATION

The Commission maintains a department of publicity and demonstration, the purpose of which is to acquaint the public with the nature and extent of its activities and to furnish useful information and statistics to the general public. This work is carried on through publications issued by the Commission, through accounts of its proceedings furnished to the daily, weekly and monthly press and through exhibits made at public expositions or other gatherings.

The PUBLIC SERVICE RECORD is a monthly publication issued by the Commission, containing technical articles by engineers of the Commission concerning various interesting features of the rapid transit work now in progress, as well as articles prepared by other members of the staff upon different phases of the regulation work of the Commission. This publication is now in its fourth volume, with a circulation of more than 3,000 copies. It circulates outside of the Commission's staff, and a number of universities, some of them in foreign countries, and technical schools are upon its mailing list.

Each week a bulletin is issued containing a brief description of the principal acts of the Commission and a calendar of the principal hearings to be held before the Commission in the succeeding week. This bulletin is sent to weekly and monthly publications in New York City and to daily papers in other parts of the State.

The Commission publishes its Reports of Decisions monthly in pamphlet form and annually in bound volumes. These are sold at the rate of \$2 per year. The proceedings of the Commission are also published in pamphlet form monthly and in bound volumes yearly. Summaries of reports of street railroads and gas and electric companies are also published.

Explanatory pamphlets containing matter descriptive of the Dual System Contracts and of the new lines under construction have been issued in several editions. More than 15,000 of these pamphlets have been distributed to date. The Commission has also participated in municipal and other exhibitions.

## PERSONNEL

At the close of the year 1916 the Commission and staff were organized as follows:

Commissioners: Oscar S. Straus, Chairman; William Hayward, Henry W. Hodge, Travis H. Whitney and Charles S. Hervey

Secretary: James B. Walker

Counsel: George S. Coleman

Acting Chief Engineer: Daniel L. Turner; Consulting Engineer: Alfred Craven; Engineer of Subway Construction: Robert Ridgway; Electrical Engineer: Clifton W. Wilder

Chief of Rapid Transit: LeRoy T. Harkness

Secretary of the Bureau of Gas and Electricity: Thomas D. Hoxsey

Chief of the Bureau of Statistics and Accounts: A. F. Weber

Chief of the Transit Bureau: Joseph Johnson

Chief of Accounts: Frederick W. Lindars

## LITIGATION

*People by Public Service Commission v. The Long Island Railroad Company.*—Penalty action, New York County, failure to obey order in Case No. 1293 directing company to stop eastbound train No. 88 at St. Albans. On March 10, 1911, the Commission received a letter from the attorney for the company stating that the train would be stopped at St. Albans in the future. The order has since been obeyed. On September 22, 1916, Counsel wrote a letter to the Commission suggesting that the action be discontinued.

*People ex rel. The Long Island Railroad Company v. Public Service Commission.*—Certiorari proceeding, New York County, to review determination of Commission in Case No. 1891 directing company to furnish certain train service on its lines within the First District. Petition, order and writ of certiorari were served March 1, 1915, and on July 31, 1915, the return was filed in Clerk's Office, New York County. On May 31, 1916, the proceeding was discontinued.

*People ex rel. New York and Queens County Railway Company v. Public Service Commission.*— Certiorari proceeding, New York County, to review determination of Commission in Case No. 1894 denying application of company for approval of declaration of abandonment of portions of route in Borough of Queens and denying company's application for rehearing. Petition, order and writ of certiorari were served June 1, 1915, and return filed in Clerk's Office, New York County, November 10, 1915. Case was argued at Appellate Division June 6, 1916, and on July 10, 1916, determination of Commission was unanimously affirmed. Judgment was entered July 25, 1916. Notice of appeal to Court of Appeals was served September 23, 1916.

*People ex rel. The Long Island Railroad Company v. Public Service Commission.*— Certiorari proceeding, New York County, to review determination of Commission in Case No. 1901 after order of Appellate Division with regard to application of J. & T. Adikes for side-track and switch connection. The return has been filed. The proceeding has not been noticed for argument.

*People ex rel. New York Consolidated Railroad Company v. Public Service Commission.*— Certiorari proceeding, New York County, to review determination of Commission in Case No. 1924 with respect to removal of snow and ice from footpaths of the elevated structures. Case submitted to Appellate Division October 5, 1916, and on October 20, the Court dismissed the writ and affirmed the proceedings of the Commission.

*Public Service Commission v. Northern Union Gas Company.*— Application to Supreme Court, New York County, for a writ of mandamus to compel company to obey order of the Commission in Case No. 1875 requiring company to substitute a prepayment meter for a black meter without charge. Petition and order served upon company January 18, 1915; answer received January 28, 1915. Motion argued before Platzek, J., February 24, 1915, and on March 23, 1915, application was granted. An appeal was taken to Appellate Division, First Department, and on July 9, 1915, decision was handed down reversing order of lower court and denying petition. Commission appealed to Court of Appeals and on January 18, 1916, order of Appellate Division was affirmed.

*People ex rel. New York and Queens Gas Company v. McCall.*—Certiorari proceeding, New York County, to review determination of Commission in Case No. 1856 directing company to extend its mains to Douglaston. Petition, order and writ of certiorari served May 4, 1915. Return filed October 18, 1915, in Clerk's Office, New York County. Case argued before Appellate Division February 17, 1916, and on March 3, 1916, the determination of the Commission was annulled. Appeal was taken to Court of Appeals and on October 3, 1916, the Court of Appeals reversed order of the Appellate Division and affirmed determination of the Commission. On November 20, 1916, the company made a motion to the Court of Appeals for reargument. Motion for reargument denied by Court of Appeals December 29, 1916.

*Public Service Commission v. Interborough Rapid Transit Company.*—Application to the Supreme Court, New York County, for writ of mandamus to compel obedience to an order issued in Case No. 1291 directing certain service on the subway during non-rush hours. Petition and order served upon company January 19, 1915; answer received February 15, 1915. Motion argued before Whitaker, J., in April, 1915; decision denying application rendered June 4, 1915. Appeal was taken to Appellate Division, First Department; argued March 3, 1916; order of Special Term affirmed April 1, 1916; appeal was taken to Court of Appeals and argued November 21, 1916; order of Appellate Division affirmed November 28, 1916.

*People ex rel. The Long Island Railroad Company v. Public Service Commission.*—Certiorari proceeding, New York County, to review order of Commission in Case No. 1727 directing company to construct a new station on its Old Southern division at South street, Jamaica. Petition, order and writ served March 8, 1915; return filed December 14, 1915. Case argued before Appellate Division June 13, 1916; determination of Commission unanimously affirmed July 10, 1916.

*Public Service Commission v. Richmond Light and Railroad Company.*—Application to Supreme Court, Richmond County, for writ of mandamus to compel company to obey order of Commission in Case No. 1675 directing construction of an extension of its railroad between Bulls Head and Linoleumville and between

Bulls Head and Springville, Richmond. Petition and order served January 27, 1915; answer received February 15, 1916; application heard by Kelly, J., November 20, 1916.

*Matter of Public Service Commission, Bushwick Station, East New York Route.*—Application for appointment of three commissioners to determine and report whether route should be constructed and operated. Application made to Appellate Division, Second Department, in December, 1915; order signed fixing January 28, 1916, as date for hearing application and designating newspapers in which notice of application should be published. Application heard January 28, 1916. On February 4, 1916, order made appointing three commissioners and designating newspapers in which to publish time and place of first hearing. Hearings were held and on March 31, 1916, report of commissioners in favor of construction and operation of route was signed. On April 25, 1916, Appellate Division confirmed report of commissioners.

*Morris v. City and others; Morris and others v. City and others.*—Actions instituted in Supreme Court, Bronx County, by property owners to recover damages for injuries to property by reason of subway construction work and for an injunction. Summonses and complaints served upon the Commission April 27, 1915, and answers served by the Commission May 17, 1915. Cases set down for trial for December 7, 1916.

*Brooklyn Borough Gas Company v. Public Service Commission.*—Action in Supreme Court, New York County, to have Chapter 604 of Laws of 1916 declared unconstitutional and void and as of no force against plaintiff and for perpetual injunction. Answer served September 8, 1916. On September 14, 1916, Cohalan, J. denied motion of Harry E. Lewis, District Attorney, Kings County, for change of venue to Kings County. Appeal from order taken to Appellate Division; order denying motion for change of venue affirmed November, 1916. Motion by District Attorney Lewis for leave to appeal to Court of Appeals was heard December 1, 1916. December 8, motion granted and questions certified.

*City v. Interborough Rapid Transit Company and others.*—Action in Supreme Court, New York County, to have determination of Chief Engineer of the Commission, dated October 14,

1913, declared null and void and a new determination rendered which shall exclude all items not properly chargeable to cost of construction under Contract No. 3. Summons and complaint served March 14, 1916. Action discontinued as to members of Commission. Answer of Chief Engineer has been served.

*Union Real Estate Company and another v. City and another.*—Action in Supreme Court, Bronx County, to restrain construction work on Section 1-A of Routes 19 & 22 non-applicable to a possible express station at 149th street and Southern boulevard. Application for temporary injunction was denied September 1, 1914. The case had been on calendar for trial and marked off by stipulation, to be restored upon five days' notice. On July 14, 1916, stipulation signed to restore case to the ready calendar for trial. The trial was begun November 2, 1916, and the matter taken under advisement by the Court until November 13, 1916, for the consideration of certain questions.

*People ex rel. Newtown Gas Company v. Public Service Commission.*—Certiorari proceeding, New York County, to review determination of Commission in Case No. 1610 with regard to rates for gas. Return is in course of preparation.

*People ex rel. Woolhaven Gas Light Company v. Public Service Commission; People ex rel. Jamaica Gas Light Company v. Public Service Commission; People ex rel. Richmond Hill & Queens County Gas Light Company v. Public Service Commission.*—Certiorari proceedings, New York County, to review determination of Commission in Cases Nos. 1787 and 1807 with regard to rates for gas. Return is in course of preparation.

*In the Matter of the hearing before the Public Service Commission for the First District and the Public Service Commission for the Second District concerning the tracks, structures and other property of the New York Central Railroad Company and the New York, New Haven and Hartford Railroad Company at or near 241st street, in the Borough of The Bronx, City of New York.*—City has appealed to the Appellate Division from the order of the Commissions. Papers on appeal have been served on all parties and filed. Appeal has not been noticed for argument.

*Williams v. Straus.*—Supreme Court, Kings County. Petition for injunction to restrain Commission from approving plans

filed by the New York Municipal Railway Corporation for the construction of the elevated structure on Fulton street, Brooklyn, from Cumberland street to Nostrand avenue. Motion for temporary injunction denied. Commission demurred to complaint and amended complaint served by plaintiff. Demurrer has not been noticed for argument.

*Astor v. City.*—Action in relation to vaults adjacent to Knickerbocker Hotel, Broadway and 42d street, Manhattan. Commission has served notice of appearance and has extended time to serve complaint to and including January 15, 1917.

*Marshall and others v. Richensteen and others.*—Action in Supreme Court, Queens County, to foreclose mortgage on premises at East 4th street and Jackson avenue, Borough of Queens. It is intended that no further action be taken against the Commission in this proceeding, as the Commission has no interest in the premises to be foreclosed.

*Perfect Coatfront Pad Company v. Therry and others.*—Action in Supreme Court, New York County, to foreclose mortgage. Service of all papers and notices except notice of sale and proceedings to obtain surplus moneys has been waived.

*People ex rel. New York & Queens County Railway Company v. Public Service Commission for the First District.*—Certiorari proceeding, New York County, to review determination of Commission in Case No. 2086 with regard to service of New York & Queens County Railway Company. The return was filed December 4, 1916.

*In the Matter of the Petition of the Public Service Commission for the First District under Section 74 of the Public Service Commissions Law for a writ of mandamus against Brooklyn Borough Gas Company.*—Proceeding in Supreme Court, New York County, to compel company to obey eighty cent gas law of 1916 (Chap. 604, Laws 1916). Order was granted by Philbin, J., directing company to answer petition. Answer received.

*Kings County Lighting Company v. Woodbury and others.*—Action in Supreme Court, New York County, to have Chapter 604 of the Laws of 1916 in so far as the same fixes the rate of eighty cents per thousand cubic feet as compensation for gas supplied by the plaintiff in the Thirtieth and Thirty-first Wards

in the Borough of Brooklyn declared confiscatory and illegal and of no force against the plaintiff, and that so much of Chapter 125 of the Laws of 1916 as amended by Chapter 604 of the Laws of 1916, as provided a penalty or forfeiture for the violation of the provisions of the Act be adjudged unconstitutional and void, and for temporary and perpetual injunction. Application for temporary injunction granted upon condition that deposit be made in bank to protect consumers; answer of Commission served, but case not yet noticed for trial. City has appealed to Appellate Division from order granting the temporary injunction.

*Chesebrough Building Company v. McCall.*—Action, Supreme Court, New York County, to restrain Commission from entering into contract with Rapid Transit Subway Construction Company for construction of Section 1-A, Routes Nos. 4 & 38. Summons and complaint, affidavits, order to show cause, injunction order and undertaking served July 9, 1914. Answer served July 15, 1914. Motion for injunction *pendente lite* argued before Giegerich, J., Special Term, Part I, July 20, 1914. Motion denied August 10, 1914. On September 9, 1914, The City of New York and Rapid Transit Subway Construction Company were made parties defendants by consent. Plaintiff served amended complaint September, 1914. Answer to amended complaint served October 20, 1914. Case has not been noticed for trial.

*Cowenhover v. City and others.*—Action, Supreme Court, Kings County, by abutting property owner, to recover damages resulting from construction of Fourth Avenue Subway, Section 9-C-1, in Hudson street, Brooklyn, in front of plaintiff's premises. Summons and complaint served April 14, 1915. Demurrer served May 4, 1915. Demurrer has not been noticed for argument.

*Napier v. New York Municipal Railway Corporation and others.*—Proceeding, Supreme Court, Queens County, by abutting property owner to enjoin construction of Jamaica Avenue line in front of plaintiff's premises on Jamaica avenue, Queens. Summons and complaint served January 14, 1915. Answer served February 27, 1915. Case noticed for trial but not reached.

*People v. New York Consolidated Railroad Company.* — Penalty action, Supreme Court, New York County, for failure of company to obey order in Case No. 1505 directing defendant to display proper line and destination signs on its trains. Summons and complaint served April 13, 1915. Answer received May 14, 1915. Order in Case No. 1505 has been amended and modified several times since the commencement of this action.

*People ex rel. Jay Street Connecting Railroad Company v. McCall.* — Certiorari proceeding, New York County, to review order of Commission in Case No. 1599 directing relator to lay down railroad tracks in Brooklyn and to operate cars thereon. Writ served May, 1913, and return filed November, 1913. Appellate Division dismissed writ and affirmed proceedings of Commission March 20, 1914. Notice of appeal served April, 1914. The appeal has been suspended at request of E. W. Bliss Company, complainant, before the Commission, pending result of application by Jay Street Railroad to Board of Estimate for modified franchise and approval of Commission of its exercise. Counsel for the complainant stated that the new franchise, if granted, would afford the complainant much better facilities than the old franchise. The new franchise has been granted and the exercise thereof has been approved by this Commission. Appeal probably will be withdrawn in near future.

*People ex rel. New York Railways Company v. Public Service Commission.* — Certiorari proceeding, New York County, to review order of Commission in Case No. 1305 requiring company, before declaring or paying dividends on its shares of stock or interest on its bonds secured by a certain adjustment mortgage previously authorized, to reserve or set aside each month for maintenance and depreciation a sum at least equal to 20 per cent of its gross operating revenues. Writ served April 18, 1913. Draft of proposed return has been prepared by Commission Counsel and submitted to Company's Counsel for suggestions to eliminate the mass of testimony and exhibits called for by the writ, which do not bear on the order in question. It is stated this proposed return is under examination.

*People ex rel. New York Railways Company v. Public Service Commission.* — Certiorari proceeding, New York County, to review order of Commission in Case No. 1560 refusing to authorize

company to issue bonds in excess of \$640,000. Writ served June 16, 1914. Return has been prepared and company notified of its preparation.

*People ex rel. City of New York v. Cram and others; People ex rel. State of New York v. Cram and others.*—Certiorari proceedings, New York County, to review determination of Commission in Case No. 1929 directing changes in existing structures at East 241st street where that street is crossed by tracks of New York Central Railroad Company. Writs served December 6, 1915, and December 7, 1915, respectively. It is expected that no further action will be taken in this proceeding, certiorari not being the proper remedy, and the City having later served notice of appeal to the Appellate Division in the same matter under the Railroad Law.

*Public Service Commission v. New York and Queens County Railway Company.*—Application, Supreme Court, Kings County, for writ of mandamus under Section 57 of the Public Service Commissions Law to compel company to comply with order in Case No. 1726 directing construction and operation of its line on Flushing avenue. Petition and order served on company January 5, 1915. Answer received January 15, 1915. Argument deferred pending certiorari proceedings instituted by company to review order in Case No. 1894 disapproving declaration of abandonment of route on Flushing avenue.

*Martin Motor Trucking Company v. Degnon Contracting Company and others.*—Action, Supreme Court, Kings County, to foreclose mechanic's lien. Summons, complaint and notice of pendency of action served November 21, 1916.

*In the Matter of the Application of The City of New York relative to opening across the tracks of the New York and Harlem Railroad Company East 166th street from Brook avenue to Park avenue, east, in the Borough of The Bronx, City of New York.*—The City had appealed to the Appellate Division from the order of the Commission. Appeal dismissed upon consent without costs to either party December 15, 1916.

## CHAPTER II

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### RAPID TRANSIT

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The rapid transit work of the Commission in 1916, performed under Chapter 4 of the Laws of 1891 and amendments thereto, known as the Rapid Transit Act, and particularly in pursuance of the Dual System Agreements perfected in 1913, was greater in volume than in any other one year since the Commission's creation, and was most important in its bearing upon the solution of the transit problems of New York City. Several of the important lines of the new system were brought rapidly toward the completed stage, while others were placed in operation; so that more than 80 track miles of the 325 track miles of new facilities were in practical use at the end of 1916. Every indication bears out the belief that fully 150 track miles additional will be in operation by the end of the year 1917 and all save a few of the lines will be opened to service before the end of 1918.

It is unnecessary at this time to go into details concerning the Dual System Contracts, a full history of the nature and scope of which has been given in previous annual reports to the Legislature. It may be well to repeat that these contracts consist of agreements between The City of New York and the Interborough Rapid Transit Company and between The City of New York and the New York Municipal Railway Corporation (Brooklyn Rapid Transit Company).

In accordance with the terms of these agreements the City is obliged to construct certain rapid transit railroads and to lease the same for operation for a term of 49 years to the two companies. Generally speaking, the cost of such railroads is to be borne by the City, although each company contributes a specified amount toward such cost. The contribution of the Interborough Rapid Transit Company is \$58,000,000, while that of the New

York Municipal Railway Corporation is \$13,500,000, the City bearing the remainder of the construction cost. The cost of the entire system with its equipment will be in the neighborhood of \$352,000,000 if the companies do not exceed their original estimates for equipment.

It is impossible as yet to fix the grand total of cost inasmuch as the two operating companies have not yet signed contracts for all of the equipment necessary. In addition to the contributions for construction, each company is obligated to supply and pay for equipment which will be used in the operation of the completed roads. There are included in the agreements of 1913 certain contracts which convey to the companies rights to build and operate additional tracks upon the structures of existing railroads operated by them, and to build and operate certain extensions of such existing lines. These contracts are known as the Elevated Railroad Certificates. Both the Operating Contracts and the Elevated Railroad Certificates were granted under the Rapid Transit Act by the Commission, acting in the capacity of a rapid transit board for The City of New York.

For convenience of construction and supervision the work upon the City-owned lines of the Dual System has been divided into 87 contract sections of which 81 have been let, leaving only six yet to be awarded. All but two of these it is practically certain will be awarded during the year 1917.

During the year the Commission awarded 44 contracts for work of various sorts upon the Dual System lines. Of these, nine were general construction contracts, eight station finish contracts, five track installation contracts, six for track materials, and sixteen miscellaneous contracts.

The total amount of the construction contracts awarded during the year was \$20,741,543, the total for track material contracts \$200,557.96, the total for station finish contracts \$1,578,357.21, the total for track installation contracts \$992,234.55, and the total for miscellaneous contracts \$849,641.71; a grand total of \$24,360,267.47 for the year. Combined with the total prices of contracts previously let upon the City-owned lines of the Dual System, this makes a grand total of \$196,340,013.34 up to December 31, 1916.

In round figures, \$35,525,000 represents the cash disbursed by the City and the companies for the year ended December 31, 1916, on account of Dual Subway construction on City-owned lines. Of this amount The City of New York supplied approximately \$23,800,000, the Interborough Rapid Transit Company \$11,700,000 and the New York Municipal Railway Corporation \$85,000 in addition to sums expended by the latter under Modifying Agreements 1 and 2. In addition, the City disbursed about \$22,000 for construction work on the First Subway. These expenditures are separate and distinct from the disbursements of the two companies on account of new construction of privately owned lines and equipment for all lines. Total disbursements by the City and the companies upon construction of Dual System lines, plus the cost of the First Subway, amounted on December 31 to \$203,085,101.56.

#### TOTAL PAYMENTS FOR RAPID TRANSIT WORK

The total payments by the City for rapid transit construction, including the purchase of real estate, since the inception of the existing subway up to December 31, 1916, as well as the total payments for the year 1916 are shown in the following tables:

## MANHATTAN-BRONX — CONTRACT No. 1

	Work and materials	Extra work and materials	Terminals	Real estate	Interest on corporate stock*	Total
Total disbursements to December 31, 1915.....	\$34,687,825 18	\$7,936,614 74	\$1,750,000 00	\$2,689,648 08	\$3,694,485 33	\$50,757,573 33
Disbursements, 1916.....	.....	14,924 83	.....	1,000 00	.....	15,924 38
	\$34,687,825 18	\$7,951,539 12	\$1,750,000 00	\$2,689,648 08	*\$3,694,485 33	\$50,773,497 71

\* The total amount of interest on corporate stock issued was applied to the "Rapid Transit Railroad Rental" account — Manhattan and The Bronx since 1906.

## BROOKLYN-MANHATTAN — CONTRACT No. 2

	Work and materials	Extra work and materials	Real estate	Interest on corporate stock†	Total
Total disbursements to December 31, 1915.....	\$1,853,908 62	\$2,129,223 61	\$1,352,896 07	\$348,044 20	\$5,683,862 50
Disbursements, 1916.....	.....	979 23	6,699 44	.....	6,678 67
	\$1,853,908 62	\$2,130,202 84	\$1,358,385 51	†\$348,044 20	\$5,690,541 17

† The total amount of interest on the corporate stock issued was applied to the "Rapid Transit Railroad Rental" account — Brooklyn-Manhattan, since 1909.

Summary of payments on present subway to December 31, 1916  
 Contract No. 1..... \$50,773,497 71  
 Contract No. 2..... 6,690,541 17

\$56,464,038 88

## INTERBOROUGH RAPID TRANSIT COMPANY — CONTRACT No. 3

DISBURSEMENTS BY THE CITY OF NEW YORK AND THE INTERBOROUGH RAPID TRANSIT COMPANY  
ON ACCOUNT OF CITY-OWNED LINES

Routes	Total disbursements to December 31, 1915	Disbursements for year 1916	Total disbursements to December 31, 1916
Seventh Ave. Line, Route 4/38.....	\$8,971,476 44	\$3,932,243 31	\$12,903,719 75
Lexington Ave. Line, Route 5, Sec. 6-15.	23,901,780 66	2,657,371 72	26,559,152 38
Jerome Ave., Route 16.....	1,963,246 26	288,874 52	2,250,120 78
White Plains Rd., R. 18, 180th street Yd..	1,654,737 38	291,002 57	1,945,739 95
So. Blvd.-Westchester Ave., Route 19/22.	3,388,739 81	1,160,167 64	4,548,907 45
Astoria, Woodside & Corona, Route 36/37	4,033,635 13	(a) 108,933 43	3,924,701 70
42d Street Connection, Route 43/26.....	1,217,470 57	917,996 82	2,135,467 39
Park Pl., William St.-Clark St., Route 48	2,878,872 56	4,846,051 07	7,724,923 63
Steinway Tunnel, Man. Route 28.....	389,885 10	26,019 02	395,904 12
Steinway Tunnel, Queens, Route 50.....	578,443 07	66,275 85	644,718 92
Steinway Dual Line, Route 26/50.....	.....	20,274 62	20,274 62
Eastern Parkway, Route 12 & Route 29.	1,422,157 64	3,126,265 90	4,548,423 54
Montague-Clark-Fulton Sta., R. 33, S. 3	143,543 01	517,688 19	661,231 20
Station finish.....	45,300 59	1,000,089 02	1,045,389 61
Real estate (city).....	375,453 19	1,168,093 15	1,543,546 34
Real estate (company).....	1,409,698 32	459,459 21	1,869,145 53
Track material.....	.....	1,349,444 28	1,349,444 28
Track installation.....	.....	212,570 52	212,570 52
Broadway & Park Pl., Sec. 2, Route 5..	.....	22,065 06	22,065 06
Maintenance.....	.....	77 71	77 71
	<b>\$52,384,427 73</b>	<b>\$21,951,186 75</b>	<b>\$74,305,554 48</b>

NOTE.— Total vouchers drawn upon I. R. T. Co., for payment to contractors included in above amounts..... \$28,164,949 90  
 Total contribution of I. R. T. Co., to City for real estate included above..... 1,869,145 53  
 Total vouchers payable by the City from funds furnished by I. R. T. Co. for station finish and 180th street yard..... 114,706 68  
**\$30,148,802 11**

(a) Total vouchers for construction chargeable to Contract No. 3 portion of Routes Nos. 36 and 37 for year ending Dec. 31, 1916..... \$281,153 86  
 Credit by transfer of amount chargeable to Contract No. 4 portion of Routes Nos. 36 and 37..... 390,087 20  
**Net credit for year ending Dec. 31, 1916..... \$109,933 45**

## NEW YORK MUNICIPAL RAILWAY CORPORATION — CONTRACT No. 4

DISBURSEMENTS BY THE CITY OF NEW YORK AND NEW YORK MUNICIPAL RAILWAY CORPORATION  
ON ACCOUNT OF CITY-OWNED LINES

ROUTES	Total disbursements to December 31, 1915	Disbursements for year 1916	Total disbursements to December 31, 1916
Brooklyn Loop Lines.....	\$12,941,607 81	\$4,850 00	\$12,946,457 81
Brooklyn-Fourth Avenue.....	19,405,589 90	100,928 45	19,506,518 35
Broadway, Route 5, Section 1-4.....	9,814,003 46	1,074,003 24	10,888,006 70
Canal Street, Route 20.....	835,991 85	666,901 82	1,502,893 67
Connections at Canal Street.....	567,783 59	85,102 69	652,886 28
Broadway-59th Street, Route 4/36.....	3,571,082 61	3,371,753 91	6,942,836 52
Whitehall-East River-Montague.....	2,232,711 86	3,890,014 77	6,122,726 63
New Utrecht Ave., Route 39.....	1,447,524 35	234,515 68	1,682,040 03
Gravesend Avenue Line, Route 49.....	42,363 68	757,467 97	799,821 63
Flatbush Ave.-East Parkway, Route 12			
St. Felix connections.....	773,290 05	591,252 32	1,364,542 37
14th Street East.....		466,777 25	466,777 25
Station finish, Contract No. 4.....	243,961 91	440,364 93	684,326 84
Track material.....	616,853 05	278,367 00	895,220 05
Installation of tracks.....	196,192 31	97,978 76	293,271 07
Real estate (city).....	*1,624,475 05	901,419 04	2,525,894 09
Real estate (company).....	4,416,599 95	40 00	4,416,639 95
Blackwells Island Tunnel.....		120,638 70	120,638 70
Queens Lines, Route 36/37.....		503,235 84	503,235 84
	\$53,730,031 41	\$13,584,702 37	\$72,314,733 78

Note.—\* \$774.42 refunded by Transit Development Co. and deducted from 1914 disbursements.

† Includes contribution by the N. Y. Municipal Railway Corporation, as follows:

Canal Street Connections — Route 5, Sec. 2-A and 3.....	\$514,733 13
Crossover, south of Canal Street.....	58,600 00
Crossover, Spring Street.....	79,553 15
	\$652,886 28
† Real estate.....	4,416,639 95
	<u>\$5,069,526 23</u>

SUMMARY OF VOUCHERS APPROVED BY THE PUBLIC SERVICE COMMISSION ON ACCOUNT OF RAPID TRANSIT CONSTRUCTION  
FROM JANUARY 1, 1916, TO DECEMBER 31, 1916

CONTRACTS AND ROUTES	CITY FUNDS			COMPANY FUNDS				Total
	Work and material	Extra work and material	Real estate	I. R. T. Co. construction	I. R. T. Co. real estate	N. Y. M. construction	N. Y. M. real estate	
<i>Contract I. Manhattan-Bronx.....</i>		\$14,924 38	\$1,000 00					\$15,924 38
<i>Contract II. Brooklyn-Manhattan.....</i>		979 23	5,699 44					6,678 67
<i>Contract III.</i>								
Seventh Ave. Line, Routes 4 and 38.....	\$312,255 29	\$6,500 00		\$3,613,488 02				\$3,932,243 31
Lexington Ave., Route 5, Secs. 6 to 15 inclusive.....	2,329,633 13			327,738 59				2,657,371 72
Jerome Ave., Route 16.....	104,889 96			181,984 56				286,874 52
White Plains Road, Route 18.....	64,040 46			226,982 11				291,022 57
So. B'ward-West. Ave., Routes 19 and 22.....	534,011 16			626,156 48				1,160,167 64
Astoria, Woodside and Corona, Routes 36 and 37.....	108,935 45							108,935 45
Steinway Tunnel, Route 26.....	26,049 02							26,049 02
Steinway Tunnel and Lexington Ave. Conn., Routes 43 and 26.....	471,498 37			448,498 45				917,996 82
Park Pl., William and Clark St., Route 48.....	841,696 09			4,004,354 98				4,846,051 07
Eastern Parkway, Route 12.....	1,357,739 45			642,098 02				1,999,707 47
Eastern Parkway, Nostrand Ave., Route 29.....	56,323 37			1,070,145 06				1,126,468 43
Real estate.....			1,168,093 15	459,459 21				1,627,552 36
Track materials.....	1,349,444 28							1,349,444 28
Track installation, Route 5, Secs. 7 to 15 incl.....	35,441 55							35,441 55
Track installation, Route 50.....	98,796 60							98,796 60
Track installation, Route 18.....	28,332 37							28,332 37
Station finish, Route 18 — White Plains.....	191,705 21							191,705 21
Station finish, Route 16 — Jerome Ave.....	241,048 86							241,048 86
Station finish, Routes 36, 37 and 50.....	472,350 88							472,350 88
Station finish, Route 5, Secs. 7 to 11 incl.....				38,181 52				38,181 52
Station finish, Route 5, Secs. 12 to 15 incl.....				56,802 55				56,802 55
Whitehall-Montague-Fulton St. station.....	517,688 19							517,688 19
Extra work at Broadway and Park Place, Route 5, Sec. 2.....		22,065 06						22,065 06
Maintenance during construction.....		77 71						77 71
Queens-Stinway, Route 50.....	66,275 85							66,275 85
Routes 26 and 50, Duct Line.....	20,274 62							20,274 62
	\$9,060,561 28	\$28,642 77	\$1,168,093 15	\$11,234,370 34	\$459,459 21			\$21,951,126 75

Contract IV.	\$1,299 15	Cr. \$28 47	\$3,550 85			\$4,850 00
Brooklyn Loop Lines.	101,013 85	Cr. 56 93				100,928 45
Brooklyn-Fourth Ave. Lines.		Dr. 2,975 66				1,074,003 24
Broadway, Route 5, Secs. 1 to 4 incl.	1,063,092 64	Cr. 22,065 06				3,371,753 91
E'way Fifty-ninth St., Routes 4 and 36.	3,371,753 91					666,901 82
Canal St., Route 20.	666,901 82					3,890,014 77
Whitehall, E. R., Montague St., Route 33	3,890,014 77					234,515 68
New Utrecht Ave., Route 30.	234,515 68					757,457 97
Gravesend Ave., Route 49.	757,457 97					591,252 32
Flatbush Ave., St. Felix St. Conn.,	591,252 32					466,777 25
Route 12.	466,777 25					219,984 82
Fourteenth St., Eastern Line.	219,984 82					1,300 00
Station finish, New Utrecht Ave., Route	1,300 00					35,765 32
30, Sec. 2.	35,765 32					30,969 67
Station finish — changes at Chambers St.	30,969 67					53,264 49
Station finish, E'way and Fourth Ave.,	53,264 49					13,851 65
Station finish, Queens, Routes 36, 37	13,851 65					25,833 02
and 50.	25,833 02					4,129 60
Track installation, New Utrecht Ave. L.	4,129 60					120,638 70
Track installation, Broadway and Fourth	120,638 70					503,235 84
Ave.	503,235 84					278,367 00
Track installation, Brooklyn-Fourth Ave.	278,367 00					901,419 04
Track installation, Queens, Routes 36	901,419 04					85,102 69
and 37.	85,102 69					2,103 45
Blackwally Island Tunnel	2,103 45					136,109 50
Queens Lines, joint operations, Routes	136,109 50					13,377 17
36 and 37.	13,377 17					
Track material, Contract No. IV						
Blackwally Island Tunnel						
Canal St. Connection.						
Station finish, Routes 4, 36 and 20.						
Station finish, Contract No. IV, varnish						
Station finish, Route 6, Secs. 1 to 4 incl.						
Station finish, Routes 9 and 11, comple-						
tion of construction.						
	\$12,613,764 59	Cr. \$19,174 80	\$904,969 89			\$13,594,702 37
						\$40 00
						\$85,102 69
						\$13,377 17
						\$13,594,702 37

\* Adjustments between Contract No. 3 and Contract No. 4.

**PAYMENTS AUTHORIZED BY THE PUBLIC SERVICE COMMISSION TO BE MADE  
ON ACCOUNT OF THE CONSTRUCTION OF "CITY-OWNED" LINES, INCLUDING  
REAL ESTATE ACQUIRED AND MAINTENANCE OF COMPLETED PORTIONS OF  
RAPID TRANSIT ROUTES**

**GRAND SUMMARY**

	Total disburse- ments to Decem- ber 31, 1915	Total disburse- ments year end- ed December 31, 1916	Total disburse- ments to Decem- ber 31, 1916
Contract No. 1.....	\$50,757,573 33	\$15,924 38	\$50,773,497 71
Contract No. 2.....	5,683,862 50	6,678 67	5,690,541 17
Contract No. 3.....	52,354,427 73	21,951,126 75	74,305,554 48
Contract No. 4.....	58,730,805 83	13,584,702 37	72,315,508 20
Total.....	\$167,526,669 39	\$35,558,432 17	\$203,085,101 56

**FUND DISTRIBUTION**

The City of New York.....	\$144,087,313 29	\$23,779,459 93	\$167,866,773 22
Interborough Rapid Transit Company...	18,454,972 56	11,693,829 55	30,148,802 11
New York Municipal Railway Corp'n...	*4,084,383 54	*85,142 69	*5,069,526 23
Total.....	\$167,526,669 39	\$35,558,432 17	\$203,085,101 56

\* Does not include \$1,000,000 for easement in 38th Street cut nor other sums paid out under Modifying Agreements 1 and 2.

**THE FIRST CITY SUBWAY**

The First Subway, representing the City's first practical venture in underground construction, extends at the present time from Flatbush and Atlantic avenues, Brooklyn, under the East river to Manhattan and north through Manhattan with branches reaching to the east and west sides of The Bronx. It is operated by the Interborough Rapid Transit Company under leases embraced in Contracts 1 and 2 and will under the Dual System Contracts be merged as a part of the latter system. Under the old lease the operating company pays to the City a rental consisting of the annual interest charges on the bonds issued by the City for the construction or permanent improvement of the line plus 1 per cent per annum for a sinking fund.

The following figures show the amount of such rental paid to the City for the entire period of operation and also for the fiscal year ended June 30, 1916:

	Twelve months ended June 30, 1916	Entire period of operation to June 30, 1916
Interest.....	\$1,867,827 24	\$19,588,000 27
Sinking fund (October 31, 1915).....	514,717 20	5,247,345 52
Total.....	\$2,382,544 54	\$24,835,345 79

The amount of construction work on the First Subway during the year was comparatively small, the expenditures for this purpose having been \$15,924.38 for Contract No. 1, and \$6,678.67 for Contract No. 2. The total cost of the First Subway including both Contract No. 1 and Contract No. 2 up to December 31, 1916, was \$56,464,038.88.

A comparison between the construction cost of the Dual System of rapid transit with New York's first underground road places in clear perspective the tremendously larger work which is now under way.

*Contract No. 1.*—The Manhattan and Bronx portions of the First Subway were placed under contract on February 21, 1900. On October 27, 1904, four years, eight months later, operation began. At that time there had been expended for construction approximately \$44,000,000, and for equipment, real estate, etc., approximately \$36,000,000, a total of \$80,000,000.

Contracts Nos. 3 and 4, and the Related Certificates providing for reconstruction, third-tracking and extensions of elevated lines, were entered into on March 19, 1913. At the end of 1916, or after the expiration of a period of about three years and nine months, the total estimated expenditure was, for construction approximately \$196,000,000, and for equipment and company construction approximately \$60,000,000, a total of \$256,000,000.

While some of the work included in the above grand total of \$256,000,000, to the amount of \$38,000,000, was under construction at the time of the signing of the Dual Contracts, the figures serve to give a clear idea of the larger proportions of the Dual System work. In other words, within a time approximately a year less than was required to construct the First Subway there

has been expended upon the Dual System exclusive of work begun before the signing of the Dual Contracts a sum almost  $2\frac{3}{4}$  times greater than that expended on the First Subway.

The new lines in operation at the present time and enumerated elsewhere represent an aggregate expenditure as follows:

For construction of City-owned lines:	
Interborough Rapid Transit Company approximately . . . . .	\$6,000,000
New York Municipal Railway Corporation (Brooklyn Rapid Transit Company) approximately . . . . .	54,000,000
	<hr/>
	\$60,000,000
 For company construction and equipment of City-owned and company-owned lines:	
Interborough Rapid Transit Company approximately . . . . .	\$20,000,000
New York Municipal Railway Corporation (Brooklyn Rapid Transit Company) approximately . . . . .	15,000,000
	<hr/>
	\$35,000,000
 Grand total for City construction, company construction and equipment . . . . .	
	<hr/>
	\$95,000,000
	<hr/>

#### NEW LINES OPENED

Several new lines embraced in the Dual System, including a portion of the new facilities provided under the Elevated Third-tracking Certificates for both the Interborough and the Brooklyn companies, were opened in 1916 as follows:

Extension of the Fourth Avenue (Brooklyn) subway from 65th street to 86th street, Brooklyn — January 15, 1916.

Third tracks and express facilities upon the Second, Third and Ninth Avenue Elevated lines in Manhattan — January 17, 1916.

Extension of the Queensboro subway from Jackson avenue to Hunters Point avenue — February 15, 1916.

New Utrecht Avenue (West End) line in Brooklyn from

Fourth avenue to 36th street to 62d street with two tracks, and to Eighteenth avenue with one track — June 24, 1916; from 62d street to Eighteenth avenue with two tracks — July 8, 1916, and from Eighteenth avenue to Twenty-fifth avenue — July 29, 1916.

Extension of the Queensboro subway from Lexington avenue, Manhattan, to Grand Central station, Manhattan — September 11, 1916.

Extension of the Queensboro subway from Hunters Point avenue to the Queensboro Bridge Plaza station — November 5, 1916.

Third tracks and express facilities upon the Broadway (Brooklyn) Elevated line from Havemeyer street to Myrtle avenue — January 17, 1916, and from Myrtle avenue to Aberdeen street — December 21, 1916.

#### NEW UTRECHT AVENUE ELEVATED LINE

Of the above lines one of the most important in view of the transportation facilities it provided for a population already large and constantly increasing in an important section of Brooklyn was the New Utrecht Avenue Elevated line. Operation began on June 24, when all-steel-car trains of the type of cars adopted for operation by the New York Consolidated Railroad Company ran through the Fourth Avenue subway and over the New Utrecht Avenue line to 62d street. Regular operation followed immediately after an official special train made a trip over the portion of the new road placed in operation.

The New Utrecht Avenue line leaves the Fourth Avenue subway at 36th street and extends through the cut commonly described as the 38th Street cut to Ninth avenue, thence becoming an elevated structure over New Utrecht avenue, turning through private property near 79th street into 86th street, continuing over that thoroughfare to Stillwell avenue and thence to the new terminal being constructed for the Brooklyn lines at Surf avenue, Coney Island.

It replaces a former line operated as one of the routes of the Brooklyn system and known as the West End line. The latter was a surface railroad which connected with and served as one of the Coney Island extensions of the Fifth Avenue Elevated line. The West End line followed a route along New Utrecht avenue

from 37th street and Ninth avenue to 79th street and continued south from that point to Bath Beach and thence westerly to Ulmer Park and Coney Island. From 39th street to Coney Island the old route was abandoned as a rapid transit line and turned into a surface car line. Following immediately upon the opening of the new elevated service, surface car operation began on the old tracks.

The New Utrecht Avenue line is City-owned and was built by the City under the Dual System rapid transit contracts. It is operated by the New York Consolidated Railroad Company, under lease to the New York Municipal Railway Corporation, one of the corporations formed to carry out the terms of the Dual Agreements. Inasmuch as the Fourth Avenue line is City-owned the City, in the event that it decides to recapture and operate the New Utrecht Avenue line either itself or through another lessee, will possess a through line from Manhattan to Coney Island. The same situation exists as to the Gravesend Avenue Elevated road, which is now under construction as a City-owned line. The Gravesend line (the Culver Rapid Transit Railroad) is being built over the route of the Culver line, which now operates as a surface railroad.

The New Utrecht Avenue line was opened with two tracks in operation as far as 62d street, and as far as Eighteenth avenue with one track, on June 24. The second track to Eighteenth avenue was utilized on July 8, and operation was continued to Twenty-fifth avenue on July 29. Eventually the City is to construct a connection with the company's Coney Island terminal, when through operation to Coney Island will be possible. When the Culver Rapid Transit Railroad and the New Utrecht Avenue line are both in operation throughout their length the five-cent fare from Manhattan to Coney Island will go into effect. A portion of the Culver line will be ready during 1917.

Interesting ceremonies marked the opening of the New Utrecht Avenue line on June 24. An official party, consisting of representatives of the City, of the Public Service Commission and of the operating company and invited guests boarded a special train and were taken to the 62d Street station. The party included President Dowling of the Board of Aldermen, Commissioner Travis H. Whitney and Secretary James B. Walker of the Public

Service Commission, and President Timothy S. Williams of the New York Municipal Railway Corporation. The party left the train at 62d street to join in the commemorative exercises at that point. Later at another location a program of pageantry was given, depicting the history of South Brooklyn from its earliest days to the installation of modern rapid transit.

The New Utrecht Avenue line, exclusive of the construction in the 38th Street cut, cost more than \$2,250,000, including expenditures for finish of stations and installation of tracks.

#### FOURTH AVENUE SUBWAY EXTENSION, 65TH TO 86TH STREET

A two-track extension of the Fourth Avenue subway from 65th street to 86th street, Brooklyn, was opened, as noted, on January 15, 1916. Operation began at 2:00 p. m. when a special train bearing railroad officials, city officials, representatives of the Commission, guests and members of the local celebration committee from the Bay Ridge section left the Municipal building and proceeded to the terminus of the line at 86th street and Fourth avenue. A celebration was held at the Bay Ridge high school where tableaux and pageants both historical and allegorical were given, followed in the evening by a banquet. Regular service was begun shortly after the passing of the official train.

The above was a part of the extension of the Fourth Avenue subway from 43d street to 86th street, the portion between 43d and 65th streets having been previously placed in service. The cost of the extension between 43d and 86th streets was about \$4,250,000, including station finish and track installation. Service over the whole of the Fourth Avenue line between the Manhattan terminus at Chambers street and the terminus at 86th street has continued without interruption since the most southerly portion was opened in January. The traffic of the line shows a steady increase.

In the last annual report reference was made to the obligation of the Brooklyn companies, under the Dual System rapid transit contracts, to exchange transfers between the Fourth Avenue subway and the surface car lines operated between Fort Hamilton and the subway. In November, 1915, a proposal to carry out this transfer agreement was made to the Commission by the contracting company, the New York Municipal Railway Corporation,

by means of an extension of surface car tracks to the terminal station of the subway at 86th street. Certain additional franchise rights, however, necessary to consummate a close connection have not yet been obtained. Hence, at the present time, holders of transfers between the subway line and the surface cars are obliged to walk the intervening distance, some 800 feet.

### QUEENSBORO SUBWAY

No special celebration marked the opening of the three portions of this route which were placed in operation during the year. The most important of the three was the portion of the extension through Ely avenue and Davis street from the Hunters Point Avenue station east and north to the mammoth new Queensboro Bridge Plaza station which is now nearing completion. This station has been described as the largest elevated station in the world and its cost was approximately half a million dollars. Through it will pass all the new rapid transit lines to and from Queens Borough. This line constitutes Route No. 50 and is known as the Queensboro Subway extension. It is approximately a mile in length and the contract price for construction, including station finish and installation of tracks, was in excess of \$600,000. Operation began on Sunday, November 5, at noon following an inspection made by officials of the Commission to determine whether the line, although not entirely completed, was sufficiently far advanced to permit of trains being run. The beginning of this operation provided the first through rapid transit between the important section of northwestern Queens and Manhattan. Ultimately the Queensboro subway will be extended west from Park avenue, Manhattan, its present western terminus, to Times square. This extension, however, will not take place until the connection is completed between the new Lexington Avenue trunk line and the First Subway at 42d street and Park avenue.

At the Bridge Plaza station the Queensboro subway connects with the important Astoria and Corona Elevated extensions, both of which will be placed in operation within the next few months. In addition to the Bridge Plaza station one other station was placed in use by the opening of this line, namely, the 11th Street station. On February 15, 1916, operation which had begun generally in the Queensboro subway from Manhattan to the Jackson

Avenue station in Queens on June 22, 1915, was continued to Hunters Point avenue, the next station to the east of the Jackson Avenue station.

The connection between the Queensboro subway and the Grand Central railroad and subway stations was opened on September 11. The official party, consisting of representatives of the City government, of the Commission, and of the Interborough Rapid Transit Company, made an inspection of the work involved in the connection on August 31, but no particular function marked the placing of this new facility in service. Until this connection was made the western terminus of the Queensboro line was the station at 42d street near Lexington avenue. Since the opening of the Queensboro subway in 1915 transfers have been given between it and the First Subway at the Grand Central station. Persons desiring to make the transfer were obliged to walk the intervening distance between the Grand Central subway station and the then terminal of the Queensboro subway, a distance of more than 500 feet. The connection was made by extending the platform of the Queensboro tube some 500 feet westward from the previous terminal to a point near Park avenue and 42d street. From the westerly end of this platform elevators were provided to carry passengers to and from a ramp passageway leading into a mezzanine of the subway station and into one of the lower level entrances of the Grand Central railroad station. The station level of the Queensboro subway is 60 feet below the street surface at the connection.

The work of extending the platform and installing the elevators was turned over to the Interborough by the Commission as work to be done under a modification of Contract No. 3. For the work the Interborough was to receive \$25,000 and agreed to complete it in advance of September 17, 1916.

The station layout at 42d street has been so designed that it will be possible readily to obtain access from the Queensboro subway to the tracks of the Lexington Avenue line which cross diagonally under 42d street and also to the track level which is being reserved for the extension of the Hudson tubes from 33d street and Sixth avenue to the Grand Central station when that extension is built. These new facilities have resulted in more than doubling traffic over the Queensboro subway. At the end of 1915

approximately 10,000 persons used the Queensboro line daily while at the end of 1916 the average daily traffic was 22,500.

The added facilities provided have resulted in a passenger traffic which is reflected in increased ticket sales on the First Subway.

### THIRD TRACKS ON THE SECOND, THIRD AND NINTH AVENUE ELEVATED LINES IN MANHATTAN

The third tracks or express tracks and the new express stations on the Second, Third and Ninth Avenue Elevated lines in Manhattan were placed in permanent operation on January 17, 1916, providing an additional source of relief for the traveling public. The work of building the new tracks and express stations was done under contracts awarded by the Interborough Company as authorized in the elevated certificates granted as part of the Dual System Agreements in 1913.

The Interborough Company awarded three contracts for this work on February 13, 1914, to the T. A. Gillespie Company, the Terry & Tench Company, Inc., and the Snare and Triest Company. No price on the work to be done was set in any of the contracts, the arrangement being that the contractors should be paid the actual cost of the work plus a percentage for compensation.

The work involved the completion of the third-tracking on the Ninth Avenue line from 116th street north to 155th street, and from Christopher street south to Rector street; the Second Avenue line was third-tracked for its entire length from Chatham square to the Harlem river and the Third Avenue line from 42d street south to City Hall, and in connection with the City Hall station at the Brooklyn bridge a double-decked structure was built on Park row from Chatham square to the bridge, one level being for Second Avenue trains and the other level for Third Avenue trains. The work involved the rebuilding of both the Chatham Square and City Hall stations.

The third tracks on the Third Avenue line, which already existed between 42d street and 129th street, were also extended north to 145th street. Between 125th street and 145th street the Second and Third Avenue lines follow the same route with a

double-decked structure. The reconstruction work between these points necessitated the construction of a new double-decked elevated railroad drawbridge across the Harlem river, which was built nearby and floated into place following the removal of the old bridge. Traffic was suspended only for a very few hours while the new bridge was being placed. There were also involved the relocation and rebuilding of the Third Avenue tracks along the Bowery. These tracks formerly were placed at either side of that thoroughfare, but under the new arrangement were shifted to the middle of the street when the third track was installed.

The work was completed substantially on contract time and resulted in the addition to the Manhattan elevated system of 15 miles of new track, as well as 9 miles of rebuilt track and 29 stations remodeled and enlarged.

There are now in process of construction by the Interborough Rapid Transit Company two connections of the Ninth and Third Avenue Elevated lines to the new Jerome Avenue Elevated extension of the Lexington Avenue line and to the White Plains Road extension of the First Subway, respectively. New and important facilities will be provided by these connections to residents in the upper sections of the City.

### THIRD TRACK ON THE BROADWAY ELEVATED RAILROAD, BROOKLYN.

The center track on the Broadway Elevated line in Brooklyn, operated by the New York Consolidated Railroad Company, was placed in service from Havemeyer street to Myrtle avenue on January 17, 1916. The operation of this new facility provided a vastly improved service on such of the Brooklyn elevated lines as are now operated over the Williamsburg bridge and through the Centre Street loop to the terminal station in the Municipal building in Manhattan. The third-tracking from Myrtle avenue to Aberdeen street was placed in operation on December 21, 1916.

Relief was afforded by this new operation to the Metropolitan Avenue, Cypress Hills and Canarsie lines by providing quicker service to and from Manhattan. In addition, it permitted an improvement in local service by the removal of the express trains from the local tracks. Express service at frequent intervals dur-

ing the night and morning is now operated as a result of the opening of the third track, and statistics of traffic indicate the popularity of the new service.

The contract for the construction of the third track from Havemeyer street to Myrtle avenue was let to the Terry & Tench Company, Inc., on October 15, 1914, at the price of \$321,305.70, to which must be added the cost of the steel purchased under a separate contract and amounting to \$193,000. The work was done as a company contract approved by the Public Service Commission. The contract for the remainder of the third-track work on the Broadway line from Myrtle avenue to Aberdeen street was let to the Jobson-Gifford Company on September 10, 1915, at a cost of \$400,441.70, plus the cost of the structural steel, amounting to an additional \$279,000. The contract for the stations on this line was let by the company to John Thatcher and Son on September 7, 1915, at a price of \$320,325.

### THIRD-TRACKING OF FULTON STREET ELEVATED LINE

The effort to find a solution for the situation in Brooklyn growing out of the proposition to continue the reconstruction of the Fulton Street Elevated railroad west of Nostrand avenue proved one of the most important rapid transit problems to which the Commission gave its attention during the year. The situation as it existed at the beginning of 1916 was fully outlined in the Annual Report of 1915.

During 1916 the questions involved were broadened considerably in scope until at the end of the year the matter had very largely been resolved into an effort to find a solution of the traffic problem for the whole of central Brooklyn. While the question of the third-tracking of the Fulton Street line west of Nostrand avenue remained a very important factor it was by no means the most important feature, having become one of several items involved in a very large proposition.

During the year opposition to the third-tracking of the Fulton Street line west of Nostrand avenue grew in force. Agitation was uninterrupted and numerous conferences and discussions marked various stages of the proceedings.

On January 6, 1916, the Commission adopted a resolution

authorizing the New York Municipal Railway Corporation to purchase the necessary steel for the work of reconstructing the line from Nostrand avenue to Adams street. The resolution directed, however, that the company modify the plans for the structure below Cumberland street so as to provide for latticed instead of plate girders, in the event that such plans had the approval of the Chief Engineer of the Commission and of the Commission. The resolution, in addition, provided that the company should file a stipulation with the Commission embodying the terms of an offer of a substitute to the third-tracking between Cumberland street and Adams street which had been made in the form of a statement by President T. S. Williams of the New York Municipal Railway Corporation and read into the record of the hearing before the Commission on December 22, 1915.

The alternative proposal was to the general effect that if the Commission would provide the company with facilities at least equal to three tracks between Cumberland street and the Brooklyn bridge and running approximately parallel to Fulton street with suitable connections and with franchise terms substantially equal to those of the Fulton Street Elevated line, the company would accept them in lieu of the Fulton Street tracks between Cumberland street and the Brooklyn bridge.

This stipulation was filed with the Commission on January 11, 1916. The action of the Commission on January 6 followed the adoption of a memorandum as the opinion of the Commission. The opinion, which embodied the alternative suggested by President Williams at the hearing on December 22, 1915, was as follows:

*Fulton Street Third-Tracking*

January 6, 1916

"The application of New York Municipal Railway Corporation for consent to a contract for the steel for the third-tracking of the Fulton Street Elevated line from Nostrand avenue to Adams street is vigorously opposed (1) by those who wish to remove the elevated railroad from Fulton street, (2) by those who wish to prevent the further third-tracking of that railroad and (3) by those who wish to substitute some alternative for at least a portion of the third-tracking.

"Preceding the execution of the Dual Contracts (March 19, 1913) the public during a long period had the amplest opportunity to express its views. At that time the Commission was justified in believing that the public was in entire accord with the proposed elevated plans involving the grant of authority to the Railway Corporation to construct additional tracks on the Broadway, Fulton Street and Myrtle Avenue lines. The present popular dissatisfaction is now expressed long after the contracts were officially approved by citizens and organizations that had notice legal and actual at the time when the expression of such dissatisfaction might have been more effective. As a matter of fact the Brooklyn expressions of public opinion late in 1912 and early in 1913 urged that the Commission hasten the approval of the Dual Contracts without further consideration of details. As conditions now indicate it might have been wiser to have given greater study to the physical layout of Brooklyn transportation. The Commission accordingly desires to avail itself of this opportunity to express its views of the present legal situation and indicate a permanent future policy of physical development.

"So far as the strictly legal aspects of the matter are concerned the situation is plain:

"After ample public notice the Commission granted authority to the Railway Corporation to construct additional tracks on the Broadway, Fulton Street and Myrtle Avenue lines. This grant of authority under the Rapid Transit Act constitutes a contract and irrespective of popular dissatisfaction is, as a matter of law, protected by constitutional guarantees.

"The claims that property owners' consents were not properly obtained and that the details of construction do not agree with the certificate of authority or the previously granted charter have been heard at length in the *Kaplan* case and decided adversely to the contestants by a referee of distinguished standing. This decision establishes the law so far as the Commission is concerned. To await appeals and decisions of higher courts would be to acquiesce in a delay that the court has refused in the injunction proceedings. Such delay would not be justified in view of the increased expense it would involve. Various objections have been urged to the soundness of the referee's conclusions but such objections would seem to be without substantial legal merit. It therefore must be taken as

a premise that the Railway Corporation has the right to construct the additional tracks and that if need be the Commission's approval of proper detailed plans could be enforced by legal process. From this the conclusion must follow that alleviation of conditions must come largely through the Railway Corporation's acquiescence and co-operation.

"This disposes of the strictly legal phase of the precise question presented by this application. But this is not decisive of the broader questions necessarily involved, for the City and the Commission have rights and powers that can and should be exercised in relieving the situation that underlies and causes the opposition not of irresponsibles but of substantial citizens of recognized standing and ability who are in the forefront of this movement to fight elevated railroads in the main business thoroughfares of Brooklyn.

"The following suggestions have been presented to the Commission:

(1) The stoppage of further third-tracking.

(2) The stoppage of further third-tracking of the Fulton Street line, the construction of an extensive Fulton Street subway and the elimination of the Fulton Street elevated.

(3) The stoppage of further third-tracking of the Fulton Street elevated below Cumberland street, the building by assessment upon property benefited of the Ashland Place connection and Livingston Street subway and the elimination of the Fulton Street elevated below Cumberland street.

(4) The stoppage of further third-tracking on the Fulton Street elevated below Adams street, the turning of the present line into Adams street and the elimination of the Fulton Street elevated below that point.

"The suggestions will be considered in their order.

"1. *As to the stoppage of further third-tracking.* It is perhaps sufficient to point out that as has already been stated New York Municipal Railway Corporation has the legal right to continue the third-tracking and that the Commission cannot forbid it. The only thing that would change this situation would be a reversal upon appeal of Judge Brown's conclusions in the *Kaplan case* which does not seem probable.

"2. *As to the Fulton Street subway.* Such a subway would probably cost at least \$15,000,000. The plain common sense of the matter is that the City has not such a

sum of money available for rapid transit purposes in addition to its Dual System committals. It is probably best to state plainly to those urging this plan that their hopes are impossible of accomplishment for many years to come.

"3. *The Ashland Place and Livingston Street plan.* This plan involves the building, by assessment upon property benefited at a cost of about five million five hundred thousand (\$5,500,000) dollars, of a connection between the Fourth Avenue subway at Fulton street and Ashland place and the Fulton Street elevated at Fulton street and Cumberland street and a new substitute subway from Fulton street and Lafayette avenue, under Lafayette avenue, Livingston street and other streets to the Brooklyn bridge. This substitute subway is to be turned over to the Railway Corporation under a perpetual franchise and the present Fulton Street elevated below Cumberland street removed.

"4. *The Adams Street plan.* This in principle is very much like the plan just discussed. It is proposed to turn the Fulton Street elevated into Adams street at an expense of nearly nine hundred thousand (\$900,000) dollars to be borne by the City, to grant a perpetual franchise for the new construction in Adams street and then remove the present Fulton Street elevated below Adams street.

"Following the hearing upon this matter the general situation was informally discussed between representatives of the Commission and representatives of the Railway Corporation, during which it developed that the Railway Corporation would be unable and therefore absolutely declined to agree to any plan which did not involve rights in the substitute subway equivalent to the existing rights in the Fulton Street elevated. This in short meant a perpetual franchise. It must be recognized in fairness that the Railway Corporation, it would seem, had practically no alternative. Outside of the probable objection of stockholders, the existing railroads and their franchises are mortgages with millions of dollars of bonds outstanding. Under these circumstances the officials of the Railway Corporation state that if they attempted to surrender and abandon any of the existing properties on Fulton street and accept in lieu thereof any rights not equal in terms and duration, and in this they are doubtless correct, beside it is clear that bondholders or the trustees under the various outstanding mortgages would be in a position

to enjoin such action of the company officials. It is, therefore, a practical situation where from a company or security-holder's standpoint the company has insisted upon a perpetual franchise for the substitute subways.

"In passing, two of the difficulties that would beset the carrying out of this plan might be pointed out. It is proposed to build this railroad by assessment. Although the Rapid Transit Act contains provision for building municipal railways by assessment upon property benefited the constitutionality of these provisions has been questioned and it would probably be impossible for the City to market any such assessment bonds until the constitutionality of the assessment provisions of the act had been upheld by the Court of Appeals.

"While the proposal for these substitute subways to be built by assessment has many attractive features there is embodied in it a principle directly contrary to the established public policy of the State and the City. The plan involves the granting of a perpetual franchise in a subway in city streets. That is of the past. The Commission is irrevocably opposed to the trading of a valuable subway franchise for a franchise on an elevated structure rapidly becoming obsolete. Furthermore, if a beginning of elevated railroad elimination is to be based upon the giving of perpetual subway franchises — and in this case a far more valuable franchise — for old-time elevated franchises, a precedent will be created which the companies naturally will insist upon following in future cases. Viewing the matter broadly, the granting of a perpetual franchise such as is suggested would in reality be an impediment to future improvements for from the public standpoint it will be so much lost ground that it will be necessary to recover before a fresh start could be made. The Commission is convinced that the modern principle is expressed in the terminable grants embodied in the Dual Subway Contract.

"Within this brief time allowed to it the Commission has done its best to find some solution for the existing situation. On the one side the company insists on a perpetual subway franchise which sound public policy would prevent the Commission from granting. The Railway Corporation was authorized, after ample opportunity for public discussion, to third-track the Fulton Street line. Its rights in this respect have been sustained in litigation. Acting under its authority the Railway Corporation has secured an option which terminates on January 15th for

the steel necessary to construct the third track from Nosstrand avenue to Adams street. If this option is not exercised there will probably result a loss due to increasing prices in steel of over \$150,000. There is no such a prospect of an immediate alternate solution of this matter that would justify the Commission in subjecting the joint account of the City and Railway Corporation under Contract No. 4 to this practically certain loss.

"At the conclusion of the hearing on this matter the President of the Railway Corporation read into the record the following proposition:

'December 22, 1915

'If the Commission forthwith approves the contracts for the purchase of steel for the remainder of the Fulton Street third tracking, I will, at the request of the Public Service Commission, recommend to our Directors the filing of a stipulation with the Commission to the following effect, namely:—

That if before actual reconstruction of the Fulton Street elevated west of Cumberland street is begun, the City will agree to provide us, as a substitute for the three tracks between Cumberland street and Brooklyn bridge, at least equal facilities in a subway running generally parallel to Fulton street between Cumberland street and the Brooklyn bridge (following as near as practicable the Livingston Street route heretofore proposed by the Committee of One Hundred), with a suitable incline connection at Cumberland street and the Brooklyn bridge, said substitute facilities to be held by us during the same tenure as the surrendered facilities are held, and subject to no more burdensome conditions, and to be furnished to us free of cost and expense, we will accept such substituted facilities, and surrender to the City the intermediate elevated structure, all upon the understanding that the necessary legislation will be obtained to effectuate such an exchange; that the necessary changes in Contract No. 4 and the Allied Certificates be made, and that whatever expense we have made in the meanwhile, or shall become liable for, on account of that portion of the franchise to be surrendered will continue to be a charge against the pooled earnings of the System in the same manner as if no such surrender of franchise had been made, and the work of third tracking and reconstruction had proceeded as originally planned.

Inasmuch as it will be probably at least two months before the steel can be fabricated if order is placed at once, and inasmuch as it will be several months later before the reconstruction will reach Cumberland street, there will be in interval of not less than six months during which time the citizens objecting to an elevated structure on lower Fulton street will have ample opportunity to determine, in cooperation with the City, whether it is possible by assessment or otherwise to raise the necessary money for the substituted subway.'

"Under this proposition it is accordingly possible for the Commission to authorize the contract for the steel and at the same time gain a period of at least six months for further consideration of a plan alternative at least to that portion of Fulton street west of Cumberland street."

The above action of the Commission was based upon a letter from the New York Municipal Railway Corporation under date of December 10, 1915, stating that the last legal obstacle having been removed, it proposed to proceed at once with the construction of the additional tracks west to Cumberland street. The company urged the Commission to authorize it to go ahead with the work. It was stated in this letter that if the plans were not submitted to the contractor by January 15, 1916, an option held by the company for the purchase of the necessary steel would expire and the cost of the material would advance from ten to fifteen dollars per ton, which would mean an increased cost for material for the section between Nostrand avenue and the Brooklyn bridge of \$150,000 to \$200,000.

A report was also presented from Alfred Craven,—at that time Chief Engineer of the Commission,—stating that it was important that action be taken in order that the advantage effected by the low price for steel assured in the company's option, in view of the advancing steel market, might be gained.

On the day following its action the Commission received a letter from President Williams of the company stating that the latticed girder construction west of Cumberland street if insisted upon would result in a cost of \$90,000 above the figure contemplated for plate girders. The Commission immediately instructed the Secretary to inform the company that the Commission was of the opinion that both the longitudinal and transverse girders of the Fulton Street work should be of the latticed type.

On January 13, 1916, the Commission was served with a temporary injunction, dated January 12, granted by the Supreme Court and sworn out by Fred C. Williams, in an effort to restrain it from approving any plans for construction involving the use of plate girders. The injunction was later dissolved. An amended complaint was filed to which the Commission demurred. The demurrer has never been argued.

On January 31, following petitions from the Fulton Street Board of Trade and the Committee of 100,—both of which had been active in the Fulton Street track matter,—the Commission adopted a motion instructing its Chief Engineer to change the plans of the Fourth Avenue Subway structure under Fulton street east of Ashland place so that a proper connection might be made with the Fulton Street Elevated line, should such a connection seem advisable at a later date.

On August 30 Commissioner Travis H. Whitney and LeRoy T. Harkness, Chief of Rapid Transit, presented to the Commission an extensive report dealing with various phases of the situation which had been assigned to them for study and consideration by the Commission. In their report a thorough discussion was made of all aspects of the problem and a number of suggestions were presented for the consideration of the Commission. A plan of the Committee of 100, for a subway in Livingston street in place of the Fulton Street tracks, joined with a project for a crosstown subway uniting the Brighton Beach line with the new lines in Queens at the Queensboro Bridge plaza, was taken up. It was stated that the bulk of the financing of such lines could be carried out upon the assessment plan, but that litigation would be necessary to determine the legality of such a method. It was pointed out in this report that unless the company would agree to accept something less than what amounted substantially to a perpetual franchise for any substitute for the Fulton Street tracks the proposal for such substitute could scarcely be entertained. It was made clear that the Commission did not propose to alter the settled public policy of not granting perpetual franchises.

The report also suggested, in view of the company's attitude towards a perpetual franchise, that an investigation be made as to the feasibility of the City's appraising and taking over all of the existing elevated lines in Brooklyn. By so doing the City would be in a position to provide a subway outlet for the elevated tracks on upper Fulton street without serious franchise complications.

The report in full follows:

August 30, 1916

*To the Public Service Commission for the First District:*

On January 6, 1916 the Commission took action with respect to the matter of third-tracking the Fulton Street "L" in Brooklyn and at the same time adopted an opinion setting forth its views in the premises. The action taken by the Commission at that time involved approving the exercise by New York Municipal Railway Corporation of its option with American Steel Company upon the basis of steel plans approved in October, 1915, with the requirement that between Cumberland street and Adams street lattice girders should be substituted for plate girders.

In the course of the vigorous opposition to the further third-tracking of the Fulton Street "L" several alternative plans were suggested to the Commission as follows:

1. The stoppage of further third-tracking of the Fulton Street "L."
2. The stoppage of further third-tracking of the Fulton Street "L", the construction of an extensive Fulton Street subway and the elimination of the Fulton Street "L".
3. The stoppage of further third-tracking of the Fulton Street "L" below Cumberland street, the building by assessment upon property benefited of the Ashland Place connection and Livingston Street subway and the elimination of the Fulton Street "L" below Cumberland street.
4. The stoppage of further third-tracking of the Fulton Street "L" below Adams street, the turning of the present line into Adams street and the elimination of the Fulton Street "L" below that point.

These various plans were considered in the Commission's opinion of February 6, 1916 which concluded as follows:

"Within this brief time allowed to it the Commission has done its best to find some solution for the existing situation. On the one side the company insists on a perpetual subway franchise which sound public policy would prevent the Commission from granting. The Railway Corporation was authorized, after ample opportunity for public discussion, to third-track the Fulton Street line. Its rights in this respect have been sustained in litigation. Acting under its authority the Railway Corporation has secured an option which terminates on January 15th for the steel necessary to construct the third track from Nostrand avenue to Adams

street. If this option is not exercised there will probably result a loss due to increasing prices in steel of over \$150,000. There is no such a prospect of an immediate alternate solution of this matter that would justify the Commission in subjecting the joint account of the City and Railway Corporation under Contract No. 4 to this practically certain loss.

At the conclusion of the hearing on this matter the President of the Railway Corporation read into the record the following proposition:

‘December 22, 1915

‘If the Commission forthwith approves the contracts for the purchase of steel for the remainder of the Fulton Street third tracking, I will, at the request of the Public Service Commission, recommend to our Directors the filing of a stipulation with the Commission to the following effect, namely:—

That if before actual reconstruction of the Fulton Street elevated west of Cumberland street is begun, the City will agree to provide us, as a substitute for the three tracks between Cumberland street and Brooklyn bridge, at least equal facilities in a subway running generally parallel to Fulton street between Cumberland street and the Brooklyn bridge (following as near as practicable the Livingston Street route heretofore proposed by the Committee of One Hundred), with a suitable incline connection at Cumberland street and the Brooklyn bridge, said substitute facilities to be held by us during the same tenure as the surrendered facilities are held, and subject to no more burdensome conditions, and to be furnished to us free of cost and expense, we will accept such substituted facilities, and surrender to the City the intermediate elevated structure, all upon the understanding that the necessary legislation will be obtained to effectuate such an exchange; that the necessary changes in Contract No. 4 and the Allied Certificates be made, and that whatever expense we have made in the meanwhile, or shall become liable for, on account of that portion of the franchise to be surrendered will continue to be a charge against the pooled earnings of the System in the same manner as if no such surrender of franchise had been made, and the work of third tracking and reconstruction had proceeded as originally planned.

Inasmuch as it will be probably at least two months before the steel can be fabricated if order is placed at once, and inasmuch as it will be several months later before the reconstruction will reach Cumberland street, there will be an interval of not less than six months during which time the citizens objecting to an elevated structure on lower Fulton street will have ample opportunity to determine, in coöperation with the City, whether it is possible by assessment or otherwise to raise the necessary money for the substituted subway.’

Under this proposition it is accordingly possible for the Commission to authorize the contract for the steel and at the same time gain a period of at least six months for further consideration of a plan alternative at least to that portion of Fulton street west of Cumberland street.

The steel for the portion of the Fulton Street "L" between Cumberland street and Adams street upon the basis of the lattice girder design has not, however, been ordered by the Railway Corporation. In the present state of the congestion of the steel mills it will probably take at least six months after the placing of the order before any large part of the steel can be fabricated and delivered. The situation which furnished the basis for the above quoted stipulation of the Railway Corporation seems likely therefore to continue for some time to come.

In the numerous discussions of this general situation that have taken place since the Commission's action of last January the only new factor that has been introduced is the suggestion advanced largely by the Committee of One Hundred that with its plan for the Ashland Place and Livingston Street subway there should be joined the project of constructing the Crosstown line joining the Brighton Beach division of the existing railroads with the Queensboro Plaza station of the Queens lines. It is the suggestion of the proponents of this plan that the cost of the entire improvement, except for about four million dollars to be contributed by the Railway Corporation, should be financed by assessment upon property benefited, spreading the assessment over a wide area that would include practically all of the Borough of Brooklyn and part of Queens.

The construction of the Crosstown line is important from the standpoint of railroad operation and constitutes a link necessary for the proper co-ordination of the Brooklyn system. It is necessary, however, first to consider certain difficulties in the path of the project.

It is not necessary to go into details to establish the proposition that for some years to come the City will not have available funds for rapid transit extension beyond that provided for in the Dual System. Any further extension, therefore, must be financed from some other source. The two sources that might be suggested are further company contributions and the raising of funds by assessment upon property benefited. In the mortgage made by it to finance this part of the Dual Subway project the Railway Corporation reserved the right to apply four million dollars toward

the construction of a crosstown line. The company has shown no disposition to go further than to indicate its willingness to contribute this four million dollars toward such construction. This would throw the bulk of the financing upon the assessment plan. The Commission has no definite information whether the suggestion of financing this work by assessment upon property benefited would meet with general support in the areas affected, although one of the purposes of the six months time secured by the stipulation referred to above was to allow for an educational campaign to develop the attitude of the taxpayers to be affected by any assessment project. It is further necessary in respect to the assessment proposition generally to keep in mind the following statement in the Commission's opinion of January 6th:

"It is proposed to build this railroad by assessment. Although the Rapid Transit Act contains provision for building municipal railways by assessment upon property benefited the constitutionality of these provisions has been questioned and it would probably be impossible for the City to market any such assessment bonds until the constitutionality of the assessment provisions of the act had been upheld by the Court of Appeals."

At the outset, therefore, the assessment plan would be approached with full appreciation of the fact that there must be litigation before any definite committing step in connection therewith can be taken.

The other main difficulty lies in the requirement made on behalf of the Railroad Corporation that if it surrenders its Fulton Street "L" below Cumberland street for subway rights in Livingston street it must receive what is practically a perpetual franchise for the Livingston Street line. In regard to the two sides of this proposition the Commission stated in its opinion of January 6th:

"Following the hearing upon this matter the general situation was informally discussed between representatives of the Commission and representatives of the Railway Corporation, during which it developed that the Railway Corporation would be unable and therefore absolutely declined to agree to any plan which did not involve rights in the substitute subways equivalent to the existing rights in the Fulton Street elevated. This, in short, meant a perpetual franchise. It must be recognized in fairness that the Railway Corporation, it would seem, had practically no alternative. Outside of the probable objection of stockholders, the existing railroads and their franchises are mortgaged with millions of dollars of bonds outstanding. Under these circumstances the

officials of the Railway Corporation state that if they attempted to surrender and abandon any of the existing properties on Fulton street and accept in lieu thereof any rights not equal in terms and duration, and in this they are doubtless correct, beside it is clear that bondholders or the trustees under the various outstanding mortgages would be in a position to enjoin such action of the company officials. It is, therefore, a practical situation where from a company or security-holder's standpoint the company has insisted upon a perpetual franchise for the substitute subways."

Expressing the contrary or public point of view, however, the Commission in its opinion states:

"While the proposal for these substitute subways to be built by assessment has many attractive features there is embodied in it a principle directly contrary to the established public policy of the State and the City. The plan involves the granting of a perpetual franchise in a subway in city streets. That is of the past. The Commission is irrevocably opposed to the trading of a valuable subway franchise for a franchise on an elevated structure rapidly becoming obsolete. Furthermore, if a beginning of elevated railroad elimination is to be based upon the giving of perpetual subway franchises—and in this case a far more valuable franchise—for old time elevated franchises, a precedent will be created which the companies naturally will insist upon following in future cases. Viewing the matter broadly, the granting of a perpetual franchise such as is suggested would in reality be an impediment to future improvements for from the public standpoint it will be so much lost ground that it will be necessary to recover before a fresh start could be made. The Commission is convinced that the modern principle is expressed in the terminable grants embodied in the Dual Subway Contract."

We think it proper to state at this point that the attitude of certain associations and individuals interested in clearing Fulton street of the elevated structure is, to say the least, disappointing in respect of the maintenance of this sound public policy. For many months prior to the time when the Dual Contracts were signed pressure upon public officials was continually exerted on behalf of associations and individuals who, while displaying and undoubtedly possessing marked public spirit, at the same time urged a prompt completion of negotiations even though that course might lead—as in fact it did lead—to a less thorough study of certain elements than should have been made and to the company's obtaining concessions that otherwise they would not have obtained. This same movement is being repeated. Despite the fact that the Commission in its

opinion of January 6, 1916 merely reflects established sound public policy in respect of granting perpetual franchises nevertheless associations and individuals of high public spirit have evidently been so blinded by their eagerness for the contemplated physical improvement that they have sent communications to the Commission urging the Commission to change its policy in this important respect. It may perhaps save these associations and individuals unnecessary time and trouble if they understand once and for all that the Commission will not change its policy; that it is fundamental; and that because of the failure to adopt or follow it in the past we are suffering from evils in respect of perpetual franchises that will be a source of extreme public embarrassment for many years to come. In other words, attractive as the proposed physical improvement is, and much as the Commission might desire, nevertheless it is not going to violate settled principles of public policy in order to secure it.

We have thus plainly presented two main difficulties that confront the successful carrying out of this project. Their seriousness should not be minimized. At the same time usually "where there is a will there is a way." If a logical and adequate plan can be presented and the co-operation of the public officials and the public at large and the railway companies affected can be enlisted in carrying it out much can be done, if not immediately in the near future. It is with the end in view of really attacking these difficulties and making progress in this matter that the recommendations in this report are made. It is time that a general plan be presented for discussion and then if the public at large or the railway companies affected consider it in so unfavorable a light that they will not co-operate in carrying it out the burden of the responsibility of such action can be clearly placed.

So far as the legal question of the constitutionality of the assessment provisions of the Rapid Transit Act is concerned there is only this to be said. If a start is not made in applying the assessment provisions of the Rapid Transit Act we shall never get a decision as to their constitutionality. It is high time that we know definitely whether these provisions are constitutional or not. If constitutional, the assessment plan reasonably applied will be of immense importance in developing railroad extensions in outlying districts and in correcting some of the past mistakes of railroad construction in the interior

districts. If unconstitutional then consideration must be given either to corrected measures or to the adoption of some alternative financial plan.

With regard to the difficulty arising out of the requirement of the Railway Corporation for a substitute perpetual franchise, we think there is a way clear to a reasonable compromise that will not only protect the company and its security holders but will conserve the public interest now and in the future. In a memorandum dated December 29, 1915, presented to the Chairman of the Commission we made the following statements:

"The other, (referring to one of two things that should be done at the present time to give some present measure of relief, and to clear the way for the future) is the vesting of title of the existing elevated and transit lines of the B. R. T. (defined as the 'Existing Railroads' in Contract No. 4) in the City under fair and equitable terms. This is indispensable to the proper carrying out of the Commission's plan for future transit improvement and to the proper solution of the problem of elevated railroad elimination. The dealings of the Commission with respect to the existing railroad are complicated by the company's ownership in perpetuity of these lines. The changing or rearrangement of parts of them that will be so necessary in the future is rendered impossible when the company insists, as it does, upon substitute perpetual franchises.

Contract No. 4 provides that the company may deduct from the combined revenue of the City and company lines a liberal allowance covering existing earnings. That contract can readily be amended so as to provide that the company receive an additional one per cent. upon a fair valuation of its existing lines to amortize their cost and to provide that the City's right of recaption (which would be extended to cover company lines) would be subject to the payment of the portion of that valuation that under the schedules should then be unamortized.

Such an arrangement in principle is fair both to the City and to the company and in practice would be advantageous to both. It would not require any present outlay by the City nor any expenditure by the company, except, perhaps, for certain refinancing costs.

Under such an arrangement the difficulties in the carrying out of future improvements that would be bound to arise between the City and the company would be obviated. The existing railroads would be exempt from taxation which would help to carry the company over the lean years of early operation, and would swell the profits of the company and the City from the railroads in future years. Moreover, in looking into the future, such an arrangement is very largely to the company's interest. When the joint City and company system provided for in Contract No. 4

is all in operation the City lines, especially the Broadway-Fourth Avenue line, will form the more valuable and more important lines of the new system. As time goes on the extensions and additions will be to the City lines so that they will be growing of relatively greater, and the company lines of relatively minor, importance. This dwindling of importance will be reflected in the value of the company lines.

A further very great practical benefit will be the relief from the existing situation which necessarily brings the company into sharp collision with the public. In this present third-tracking matter the company has indicated in all the discussions before the Commission its desire to be fair and reasonable and to placate and not to antagonize public sentiment. Despite good intentions the practical situation is such that the interests of the public and of the company are at variance and in the future will become more and more widely so.

With the title to the existing railroads in the City the broader plans can readily be carried out from time to time. The City could lay out extensions to company as well as to City lines and rearrange and revamp some of the company's lines so as to correct the mistakes of the past. It will then be a matter of plans and finance and the voluntary coöperation of the citizens of central Brooklyn in offering to stand assessment indicates that by a reasonable use of that method improvements can be secured far earlier than would otherwise be the case.

There are no insuperable difficulties to the carrying out of this arrangement. The main one will be in agreeing upon a fair valuation of the existing railroads. That should, however, readily yield to fair dealing on the part of the City and the company."

Now, as to what should be done:

In our memorandum of December 28, 1915 we stated:

"Under Contract No. 4 the Commission has the right to add extensions to the City railroads. Under this an extension or extensions should be laid out so divided as to be susceptible of construction at different periods. This extension or extensions should involve a line connecting with the Fourth Avenue subway at Fulton street and Ashland place and extending under Fulton street and private property to a point near Cumberland street where a connection can be made with the Fulton Street elevated. As part of this line an adequate station should be constructed at Lafayette avenue so designed as to fit in with the Livingston Street line. The Livingston Street line should also be included as part of such extension or extensions and should be laid out so as to carry it under Lafayette avenue and Livingston street to a point in lower Brooklyn from which it should subsequently be carried in tunnel under the East river and across Manhattan and northward connecting with the Fourteenth Street-Eastern line. This should be so divided as to permit of the construction with

the Ashland Place connection of the portion of this line in Brooklyn leaving the tunnel and the Manhattan portion for future building. The Ashland Place line and the portion of the Livingston Street line in Brooklyn should be built as soon as the preliminary steps can be completed from funds raised by assessment upon property benefited as suggested in effect by the Committee of One Hundred. The Commission from time to time has been informed by individual members of the Board of Estimate and Apportionment that they were willing to make available for this general situation the estimated cost of turning the Fulton Street tracks into Adams street about \$900,000. If this amount be made available by the Board of Estimate and Apportionment the Commission will approve the application toward the Ashland Place or Livingston Street line so as to reduce the burden of the assessment.

While the 'neck of the bottle' of the Fourth Avenue subway below Ashland place may some time need the capacity utilized for the Ashland Place line the Commission is of the belief that that will not be for a number of years to come. During this time the line will be giving substantial relief to central Brooklyn and afterward will be of considerable value for incidental and emergency operations.

The provision of these extensions will render unnecessary the third-tracking of the Fulton Street Elevated line below Cumberland street. If the Railway Corporation insists upon carrying out its legal right to third-track that part of the line the Commission may not be able to prevent it. Under the changed circumstances, however, the third-tracking would be a waste of money and a needless injury to property."

The reasons for such conclusions are set forth at some length in the report referred to. Further reflection has confirmed the correctness of the views then expressed. The only opposition to the physical side of this plan has been with respect to the connection with the subway at Ashland place which is based upon an alleged possible curtailment of the capacity of the South Brooklyn lines. There is a tremendous rapid transit trackage provided for South Brooklyn but that district is largely undeveloped and a number of years will elapse before it will justify the intensive operation the lines are capable of. Pending that time the populous central district of Brooklyn should have the use of the surplus capacity of Fulton Street and Flatbush Avenue Extension trunk. By the time that surplus capacity is needed for the South Brooklyn lines the City will be in a position to finance other plans for the relief of central Brooklyn.

In order that the improvement should be comprehensive and afford a greater degree of benefit there should be added to this improvement the project of building the Crosstown line.

There can be hardly any ground for differences of opinion as to the desirability of the prompt construction of the Crosstown lines. There is probably no line that could now be built in the City of New York that would be of greater benefit to such a large population and area. At the present time, aside from the South Brooklyn lines, the rapid transit operation in Brooklyn is generally east and west. The Fulton Street, Broadway and Myrtle Avenue lines serve this traffic but there is no way to go north and south in the part of Brooklyn, north of Fulton street except by trolley cars. The Williamsburg and Greenpoint districts of Brooklyn constitute one of the greatest manufacturing centers of this country but they are almost cut off from the central and southern districts of the borough. To go to Greenpoint from Borough Hall, for example, it is necessary to rely largely upon the so-called crosstown surface line that consumes such a length of time for the trip that in the case of a considerable part of the traveling public the trip is made only when it cannot be avoided. The long distance and the slow transit have therefore effectually operated to separate Greenpoint and Williamsburg from central and southern Brooklyn. This is unfortunate in many aspects. It tends to continue Brooklyn as a collection of villages and towns whereas both business and civic considerations require its complete unification and the development of the Brooklyn point of view as distinguished from the sectional points of view that have been largely responsible in the past for the failure of all parts of Brooklyn to unite on any one project.

Some advantages of the Crosstown line may be stated as follows:

It will provide a north and south line extending with the Astoria and Corona and the Brighton Beach connections, from Astoria and Corona in Queens to Brighton Beach and Coney Island. It will be in fact as well as in name a "Long Island Sound to Atlantic Ocean" line.

This line will not only unite divided sections of Brooklyn as they should be united but will also join Brooklyn and Queens as they should be joined and not make the route from Brooklyn to Queens and *vice versa* via Manhattan with two crossings of the East river.

Furthermore, it will tie in the east and west transit lines of Brooklyn. It will cross the Broadway, Myrtle Avenue, Lexington Avenue and Fulton Street lines, and by a system of transfers east and west will afford convenient access to all parts of the borough.

Summing it up it may fairly be stated that this line is indispensable to the proper development of Brooklyn and at least the southern portion of Queens.

Now, as to the financing of this enlarged project:

The cost will depend considerably as to just what layout is finally adopted, the trackage and the proportion of subway and elevated construction. We have not endeavored to settle these questions at this time believing that, as the property owners affected would have to bear the cost, a more complete opportunity for the discussion of such details should be given after the general framework of the project is determined. With respect to these details we might say generally that as the project is proposed to be paid for directly by the property owners through assessment their views should have the greatest weight as to these matters.

Any precise estimate of cost is therefore impracticable at this time. In view of the tremendous assessed valuation of the area that will be benefited we believe that the average of the assessments for the construction of the entire project (including both the Crosstown line and the Ashland Place and Livingston Street connection) would be between one and two per centum of the existing land values. In this we have assumed that there would be available the sum of \$4,000,000 reserved by the New York Municipal Railway Corporation in its mortgage for the construction of such a line. The Rapid Transit Act provides that such an assessment shall be paid in ten annual installments. This would mean therefore an annual increase in the tax bills from one-tenth of one to two per centum of the land valuations for a period of ten years. It would seem to be apparent that the actual benefits will many times exceed the assessments.

We appreciate that there are many and serious difficulties in the way of carrying out these improvements in the way outlined. At the same time they are of such far-reaching importance and benefit that we believe a determined and united effort should be made to overcome the difficulties and carry the plan into effect. If the people

of Brooklyn and Queens want these improvements the opportunity should be given them to help toward securing them. The final result will depend largely on the property owners themselves. With a united public sentiment much can be done; without it, little. The successful carrying out of the whole project means so much to Brooklyn that it is worth fighting for. Any other policy than the one indicated would mean succumbing to the foreseen difficulties without affording the people of Brooklyn an opportunity to make a constructive effort for what they want.

A further possibility has been suggested that would permit of the application of about \$5,700,000 toward these projects. This is the abandonment of the Nassau Street line. As the Nassau Street line is part of the Dual System the original as well as the revised estimates include this cost as part of the total cost of the Dual System. The abandonment of this line would therefore release this sum of money which would go far to paying the cost of these projects, leaving the balance to be met by assessment upon property benefited. Attractive as this may seem from the standpoint of those primarily interested in the elimination of the Fulton Street elevated below Cumberland street and the construction of the Crosstown line, it should be remembered that there are strong reasons for the construction of the Nassau Street line and in addition it has the advantage of priority of inclusion in the Dual System. It would seem that without the Nassau street line service over the Williamsburg and Manhattan bridges into the Centre Street loop would be unsatisfactory as it would not continue further south than the Chambers Street station. This would mean a curtailment of the service that has in effect been promised to the residents of Brooklyn, since the benefit to the large proportion of the passengers using the Centre Street loop would be the ability to continue to the south end of the island and so on to Brooklyn through the Whitehall-Montague Street tunnel. It is doubtless true that both the Nassau street line and the Broadway-Church Street line, which feed into the Whitehall-Montague Street tunnel will in the end, produce congestion in the tunnel. This however was originally contemplated and provision has been made in constructing the lines whereby when the time comes the Broadway-Church Street line may be connected with a new tunnel from a point near the Battery to a point further south in Brooklyn, such as at Atlan-

tic avenue, leaving the Whitehall-Montague Street tunnel exclusively for the Nassau Street line. If the Nassau Street line were not constructed trains coming through the loop from the Manhattan and Williamsburg bridges would need to turn at Chambers street and continue across the Brooklyn bridge. This would be at the best a very unsatisfactory connection and a positive limitation of traffic. The connection between the Chambers Street station and the Brooklyn bridge has already been constructed by the Bridge Department and is built on a curve and grade that will require very heavy motive power for all trains using it. This presents the serious question whether the Brooklyn bridge could carry such trains without a substantial increase in the interval between trains and thereby a substantial reduction in the number of trains per hour that can operate through the Centre Street loop.

Moreover, since the Nassau Street line is included as one of the Dual System lines it can only be abandoned through an agreement modifying Contract No. 4 which would of course require the assent of New York Municipal Railway Corporation. At the time the Fulton Street situation was under consideration last January we discussed the suggestion of abandoning the Nassau Street line with representatives of the Railway Corporation and were met with the statement that they considered the line necessary for the proper development of the Centre Street loop and that for that reason and because their financing had been predicated upon its construction they would be unable to acquiesce in a modifying agreement. However, the possibility of the abandonment or the deferring of the construction of the Nassau Street line is one that should carefully be considered from all standpoints as a possible alternative toward securing funds for the suggested necessary improvements in the Borough of Brooklyn.

Concretely, we recommend the prompt undertaking of the following preliminary steps:

1. The investigation and consideration of the precise plans and scope of this improvement, together with the preliminary steps toward laying out an assessment area and instituting assessment proceedings. In connection with this the various individuals and civic associations that have appeared before the Commission in connection with this project could lend substantial aid if they would unite and thereby in consultation give the Commission the benefit of a real Brooklyn point of view.

2. The institution of negotiations with the Railway Corporation looking toward the fixation of a price at which the existing railroads can be taken over by the City. As we have indicated above this is indispensable to the carrying out of any further transit improvements in Brooklyn, and a start should promptly be made so that the necessary preliminary work can be disposed of and results obtained. As and aid to the fair and proper consideration of this large matter of valuation we suggest that it be referred for consideration and report to a committee of ten — five to be appointed by the Railway Corporation and five by the Commission. This Committee should promptly be organized and arrangements made to afford it the necessary clerical and other assistance.

If the Railway Corporation will lend its prompt coöperation to this project there is no reason why such large progress should not be made along both the lines indicated before the first of the year as definitely to indicate the eventual success or failure of the project as a whole.

In connection with the consideration of this matter the proponents of the Adams Street relocation plan have ably and exhaustively presented their arguments for the adoption of that plan. After renewed consideration of the entire subject we are unable to modify the conclusions in our memorandum of December 28, 1915, to wit:

“The Adams Street plan. This is in principle very much like the plan just discussed. It is proposed to turn the Fulton Street elevated into Adams street at an expense of nearly \$1,000,000 to be borne by the City, to grant a perpetual franchise for the new construction and then remove the present Fulton Street elevated below Adams street.

It differs however from the Ashland Place and Livingston Street plan in that the considerations urged in its support are almost entirely aesthetic — it will free Borough Hall plaza of the elevated railroad but will not substantially improve transportation or add a revenue producing improvement. If large sums of money are to be spent in transit improvements it is the Commission's policy that other things being equal the money should be so expended as to give some real transportation improvement and produce needed additional revenue.

The expense of this plan is stated to be nearly a million dollars. That, however, is the only part of the real expense for in connection with it the Bridge Department has planned extensive changes in the Brooklyn Bridge approaches and terminals which would cost two or three million dollars more. Necessary transit improvements that must come within the next ten or fifteen years will

make the expenditures involved in carrying out this project largely useless. It would therefore be better to bear the existing situation for a while longer and then put one million dollars, or if the bridge work is included three or four million dollars, into a really permanent revenue-producing improvement."

Respectfully submitted,

(sgd) TRAVIS H. WHITNEY,  
*Commissioner,*

(sgd) LEROY T. HARKNESS,  
*Chief of Rapid Transit.*

On September 26 Commissioner Henry W. Hodge filed with the Commission an opinion, following an extensive investigation of the engineering questions involved in the latticed and plate type of transverse and longitudinal girders, recommending a combination girder, partly of the web type and partly of the latticed type. Action upon this opinion, however, was later postponed sine die, pending further discussion of the whole problem.

On December 4, 1916, the Commission held a hearing at which both proponents and opponents of the third-track plan and of the other plans proposed were given full opportunity to express their views. Later certain business men of lower Fulton street, together with Brooklyn real estate interests petitioned the Commission to direct that the third-tracking be proceeded with immediately. These petitions were taken under consideration.

Following the hearing of December 4, numerous conferences were held between Commissioner Whitney, LeRoy T. Harkness, Chief of Rapid Transit, Timothy S. Williams, President of the New York Municipal Railway Corporation, and representatives of various committees, at which the attitude of the company and of the Commission toward the alternatives was discussed. Certain suggestions of the Commission as to the treatment of the problem were contained in a letter of Mr. Harkness to President Williams who on December 28 sent the following reply in which he set forth what the Brooklyn company was willing to do and the terms to which it would agree:

NEW YORK MUNICIPAL RAILWAY CORPORATION  
85 Clinton Street  
Brooklyn, N. Y.  
W-R

December 28, 1916

Mr. LEROY T. HARKNESS,  
*Chief of Rapid Transit,*  
Public Service Commission for the First District,  
120 Broadway, New York City, N. Y.  
My dear Mr. HARKNESS:

I have yours of the 21st instant with draft of proposed letter suggesting in effect that we abandon temporarily that portion of our obligation under Contract No. 4 and the allied certificates which requires the third tracking of Fulton street westwardly from a point at or near Cumberland street, and inquiring as to our attitude towards a substituted program involving a connection between the Fulton Street Elevated tracks and the Fourth Avenue subway and other changes.

I have conceived it to be the duty of the company, as well as of the Public Service Commission faithfully to carry out the provisions of the so-called Dual System Contracts. The non-action of the Commission, however, in the Fulton Street matter has prevented any progress being made toward the completion of that improvement, and the increased prices of steel and other materials, to say nothing of the increased cost of labor, during the period of non-action of the Commission, has undoubtedly added at least half a million of dollars to the burden of cost which we assumed. Since the receipt of your letter, however, I have talked with representative citizens with a view to eliciting their ideas of the situation, and in order to meet these varying views and to induce prompt and definite action by the Commission, I am prepared to recommend to our directors approval of such changes in our contracts with the City, and such additional official and corporate action as will accomplish the program outlined below, and on the conditions also herein set forth. I wish to have it clearly understood, however, that the program referred to (which is very largely along the lines of the suggestions made by you and Commissioner Whitney at our recent meeting and was substantially contained in the draft accompanying your letter of December 21st) is not to be regarded as separable as to the various matters therein referred to, but that the whole program is to be considered

as one, that the necessary official action as to all shall be taken, and that both the money and the authority for carrying out promptly and effectively each step of the program will be pledged in advance.

*Program and conditions precedent to B. R. T. acceptance*

1 — The Public Service Commission forthwith to give the necessary authority for the letting of contracts for a continuance of the Fulton Street third tracking between Nostrand avenue and the point of beginning of the so-called Ashland Place connection, with such modifications in existing plans as may be required by that connection.

2 — The three tracks on Fulton street eastwardly of a point near Cumberland street to be connected by two tracks through incline and subway to the tracks of the Fourth Avenue subway, and also with the two existing tracks of the Fulton Street elevated extending westwardly. The plan of this so-called Ashland Place connection to be satisfactory to us as to grades and location, and to be such as to permit of the operation of express and local trains from points east of the connection either into the Fourth Avenue subway or over the remainder of the elevated structure westwardly. The City to bear the expense of the cost of the connection, with the understanding that no more than \$1,600,000 of such expense shall be chargeable to the cost of the construction of the railroads as defined in Contract No. 4. The connecting tracks on the incline structure and in the subway to be included among the tracks described in Article LXXVIII of Contract No. 4 which the City obligates itself to lease to the company in the event of recapture of the Broadway-Fourth Avenue line prior to the contract's expiration. At such time as the operation of Fulton Street Elevated trains into the Fourth Avenue subway via a so-called Ashland Place connection shall congest operation in said subway so as to prevent or diminish its required use for the purposes for which the Fourth Avenue subway was originally intended, the City will provide a new outlet for such trains via a new subway to be constructed in Lafayette avenue and Livingston street, or will permit the continuance of Fulton Street third tracking westwardly to the Brooklyn bridge or to any tunnel which may be substituted therefor for rapid transit service,

3 — The City to provide at its expense (chargeable, however, to City rapid transit construction) a suitable station in the Willoughby Street subway at or near Lawrence street.

4 — The City to suspend for such time as may be agreed upon the obligation of the company to third track the Fulton Street line westwardly of the proposed Ashland Place connection, so that no present rights thereon may be sacrificed, and to approve such reinforcement of structure and extensions of platforms as part of the cost of the reconstruction of existing railroads as may be desired by the company, and as will permit adequate operation from points east of the Ashland Place connection to lower Fulton street.

5 — The so-called Adams Street relocation to be authorized along the lines of our application of November 4, 1914, and revised plans therefor to be mutually agreed upon. (Since dictating the above I have read your supplementary letter of yesterday's date making certain suggestions as to the so-called Adams Street relocation. What I have said above I think answers most of your inquiries, but your suggestion that this relocation, if approved, should be deferred more or less indefinitely and possibly not adequately constructed to meet the future contingency of a third track on lower Fulton street, is in my judgment extremely unfair to those citizens who have urged the relocation in accordance with their plan of beautifying lower Fulton street, and from such a suggestion I emphatically dissent.)

6 — The Bridge Street station of the Myrtle Avenue Elevated line to be moved eastwardly to Flatbush Avenue extension, and facilities to be provided for transfer without ticket between Myrtle Avenue Elevated trains and Fourth Avenue Subway trains at the Gold Street station underneath,—this subway station to be altered so as to allow both express and local stops.

7 — The tracks for elevated train use on the Brooklyn bridge, with the connections and appurtenances owned by the City, forthwith to be made part of the railroads under Contract No. 4, and operation thereof and compensation therefor to be governed by the existing provisions of said contract. This condition is

incorporated particularly for four reasons, First, because the Brooklyn bridge should in this respect be in no different category from the three other East River bridges; Second, because the contract under which elevated train operation is now carried on over this bridge has expired and may be terminated by either party on short notice; Third, because with the Clark Street and Montague Street tunnels and the Manhattan Bridge rapid transit service in operation, and with Ashland Place connection according access in Manhattan to Fulton Street elevated passengers, and the transfer proposed above between Myrtle Avenue elevated and the Fourth Avenue subway, there will be no occasion for other than a very limited operation of elevated trains over the Brooklyn bridge, and Fourth, because the joint operation would thereby be relieved of the minimum special tax of \$1750 a week with which it is now burdened and the payment of which only postpones the time when both City and company will be earning full interest on their rapid transit investments and in receipt of divisible profits. As to this last named reason, the equity of the proposal is made stronger by your insistence that the cost of the Ashland Place connection which you estimate at about \$1,600,000, should be included in the City's cost under Contract No. 4, and the interest and sinking fund thereon is an additional burden which joint operation has got to bear over and above the original requirements of the contract before profits are divided between the City and the lessee.

8 — The City forthwith to pay to the New York Consolidated Railroad Company the sum of \$55,000 or thereabouts (with interest) expended by that company or its predecessor at the direction of the Bridge Commissioner in the reconstruction of the Brooklyn bridge and track facilities thereon. The City's liability for this expenditure has been substantially admitted, and there is no reason in good faith why we should not have the money which we advanced for the City and at its request with the assurance at the time that it would be repaid.

9 — The City to construct as part of the railroad an express station for elevated trains on the Williamsburg Bridge plaza. The necessity for this station is conceded. The demand for it among people who use

the Broadway elevated is unanimous. The construction would be on City property, and there is no provision now under either Contract No. 4 or the allied certificates whereby we can pay the cost of such a station.

It is my judgment that the program outlined above is one that will give general satisfaction, and will substantially meet the views which you and Commissioner Whitney expressed to me at your recent conference. I need not add that we are getting very impatient over the delays to which we have been subjected not only in this Fulton Street matter, but in other matters attending the carrying out of our City contracts, and that unless a speedy decision is reached one way or the other we shall be obliged to resort to the enforcement of such legal rights as the contracts with the City give us.

Very truly yours,

(Sgd.) T. S. WILLIAMS,  
*President.*

#### CONSTRUCTION OF THE LABOR LAW

Rapid transit construction work during 1916 was marked by relatively few labor disputes as compared with the preceding years following the signing of the Dual Contracts. Two strikes occurred and one question was raised and considered by the Commission as to the construction of certain provisions of the Labor Law. Both of the strikes which affected subway workers were settled through the good offices of Chairman Oscar S. Straus, who brought the various contending parties together in a series of conferences arranged by him. A final settlement was worked out agreeable to all concerned and under which work was immediately resumed.

The first strike, which was the most serious, involved laborers, timbermen, and timbermen's helpers and lasted for 15 days, beginning on April 3. Before the adjustment was reached it threatened to spread to every part of the city where rapid transit construction work was being done. Work was entirely stopped on a few of the contracts.

On March 1, 1916, the Tunnel and Subway Constructors' International Union of North America served notice on all contractors

doing public work that an advance in the wage schedule was expected on April 1. The schedule proposed by the union men was as follows:

Timbermen, \$3.25 per day for eight hours;

Timbermen's helpers, \$2.40 per day for eight hours;

Laborers, \$2.00 per day for eight hours.

On April 7 a conference was held at the offices of the Commission, but little was accomplished toward effecting a settlement. Later, Chairman Straus suggested to both sides that small committees be appointed to meet at his office to see if some form of settlement could not be worked out. Several of the leading contractors joined in the move, and as indicating their willingness to bring about a settlement made a tender of a wage increase which they authorized Chairman Straus to present. The two committees got together in the office of Chairman Straus on April 12 for their first conference and an agreement was there drawn up, signed by representatives of the contractors and of the union, by which the scale of wages just mentioned was adopted with the addition that concrete machine runners, excepting where the engineers have jurisdiction, should be paid \$2.50 per day and that wooden concrete form workers should be paid \$2.75 per day. It was provided in the agreement that none of the classes of labor connected with this kind of subway work should go out on strike or be called out in sympathetic strike during the continuance of the present rapid transit contracts.

Concessions were also made by the union, including an agreement that the affiliated unions, namely, the drill runners, blasters or powder men, tool sharpeners, rockmen or blast foremen and others affiliated with the Tunnel and Subway Constructors' International Union of North America, were bound to observe the prevailing wage rates, except that the rates for engineers should be \$30 per week straight time or \$6 per day broken time, commencing June 1, 1916. The agreement was signed at 5:00 p. m., April 18, and practically all of the strikers returned to work on the following morning. Both the contractors and the labor leaders made public acknowledgment of their gratitude to Chairman Straus for his efforts in bringing the strike to an end.

Similar good offices employed by Chairman Straus were effective in ending the second strike, which also began in April. Members of the International Compressed Air and Foundation Workers Union of the United States and Canada employed on the East River tunnels presented to the Flinn-O'Rourke Company, Inc., the contractors for the tunnel work, a proposed wage and working agreement which the contracting concern held to be a violation of the agreement entered into between the company and the union on August 11, 1915, and which was to cover the life of the East River tunnel contracts. The contractor refused to accept the modification of the original agreement. Thereupon the union notified the contractor on April 7, 1916, that it proposed to call out all members and prospective members of the union on this work, the strike to take effect as of noon on April 7. In all, some 800 of the tunnel workers — so called "sand hogs" — who were employed in the Old Slip-Clark Street and Whitehall-Montague Street tunnels quit work.

Several conferences took place between the contracting company and the union members in the effort to find a basis of settlement. When these efforts proved unavailing Chairman Straus intervened and, following an informal conference with representatives of the contractor, called to his office on May 1 Major John F. O'Rourke of the Flinn-O'Rourke Company, and Henry Kuhlmann, General Secretary of the International Compressed Air and Foundation Workers Union, together with a delegation of the tunnel workers. Hugh Frayne, general organizer of the American Federation of Labor, was also present. Both sides discussed the situation frankly.

An agreement was reached under which the men agreed to return to work on May 3. The new agreement provided that when at any time the air pressure in the tunnel locks equaled 30 pounds to the square inch the men were to receive an additional twenty-five cents per man per shift; when the pressure equaled 35 pounds another twenty-five cents was to be added to the men's pay, and other sums of twenty-five cents for each 5 pounds in excess of 40 pounds.

During the street car strike which was prevalent in New York City during August and September and which is treated in

another chapter of this report, it was feared that a general strike throughout the city might ensue and result again in labor difficulties upon the rapid transit work. This fear, however, proved to be groundless.

A new phase of the relation of the Labor Law to rapid transit contracts is contained in the one question of the construction of the Labor Law brought before the Commission during the year. The question involved is whether contracts for equipment, which are let by the two operating companies under the Dual System Contracts, are covered by Section 3 of the Labor Law, relating to the prevailing rate of wages and hours on public work.

It is stated that it is the intention of persons interested in the interpretation of the Labor Law to carry this matter into the courts for determination. The matter was called to the attention of the Commission in a communication dated March 27, 1916, from William D. McNulty, representing the Inside Electrical Workers of Greater New York, requesting a conference on the subject of alleged violation of the Labor Law in connection with the work done at subway and elevated stations. On behalf of this organization Mr. McNulty claimed that various portions of equipment should be considered to be embraced within the provisions of the Labor Law as to wages and hours of work upon public contracts. He stated that on the premise that such work should properly be so included, there had been many violations of the law. He raised several other questions for the attention of the Commission, which were all referred to Commissioner William Hayward.

A number of conferences were held, and out of these grew a definite proposition from Mr. McNulty that Section 3 of the Labor Law be written into all contracts. He raised this question in an application on behalf of Herbert Keogh and other residents of the city, announcing that he proposed to start an action in reference to the proposed contract to be let by the Interborough Company for electric lighting, heating and ventilating systems on the Beverly Road, Newkirk Avenue and Flatbush Avenue stations of the Nostrand Avenue line. The Commission denied the application on December 13. It is expected that the applicants will carry the matter into the courts for a test.

## ACCIDENTS IN CONSTRUCTION

Rapid transit construction work has been prosecuted during the year with relatively few accidents. While it is almost impossible in a work of such magnitude to prevent casualties to some of the thousands of employes and the destruction of some materials, especial care has been exercised to reduce them to a minimum. During the year 1916 there were but three such accidents of sufficient moment to warrant mention in this report.

On the afternoon of July 13, 1916, on Section No. 2 of Route No. 29, a portion of the Nostrand Avenue, Brooklyn, subway, a sewer crossing Nostrand avenue at Beverly road gave way during a particularly hard thunder storm. The section of the sewer which broke extended across the width of Nostrand avenue. Water from the sewer flooded the subway excavation north of Beverly road, undermining the timbering, which collapsed for a distance of about 80 feet, carrying the decking and a trolley car and the car tracks to the bottom of the cut — a depth of some 17 feet. Fortunately no one was seriously injured. All the passengers had left the trolley car in response to a warning by engineers of the Commission. Several employes of the Brooklyn Rapid Transit Company, however, including the motorman and the conductor of the car, refused to leave. Orders were given to back the trolley car away from the danger point. As the car started to move the decking collapsed. Several company employes were carried down into the excavation with the car, but none was so seriously injured as to require the service of a physician. Public Service Commissioners Whitney and Hervey, together with Robert Ridgway, Engineer of Subway Construction, and other engineers and officials of the Commission visited the scene shortly after the accident and their orders carried out with commendable rapidity resulted in the restoration of the decking and of service on the Nostrand Avenue trolley line with a minimum of delay.

On June 21, 1916, a compressed air pipe line serving the drills of the contractor on Section No. 2 of Routes Nos. 4 and 36, the Broadway-Fourth Avenue line in Manhattan, exploded underneath the pavement on the west side of Sixth avenue between 34th and 35th streets, near the power house of the contractor. No one was seriously injured. The pavement was torn up for a few feet

and a 12-inch gas main was broken. The cause of the accident was for some time a mystery but investigation by engineers of the Commission convinced them that the probable cause was the presence of oil within the cylinders of the air compressing machine and that this oil undoubtedly became ignited and an explosion followed.

As a result of the investigation directions were given to the various division engineers to make frequent inspections of the air compressing plants, and tests were ordered of the oils used by the contractors on the various sections in an effort to obtain oils for use in air compression work of such quality that similar happenings might be prevented in the future.

On October 23 service on the northbound express track of the First Subway was delayed for one hour and 46 minutes—between 10:44 A. M. and 12:30 P. M.—when a concrete mold used for the placing of a portion of the lining at the Diagonal Station connection was broken. An express train was passing at the time and it is believed that a projection on the mold may have been hit by the train, causing it to fall apart and permitting the concrete mixture to flow over the tracks, blocking the passage of express trains. No one was injured and no serious damage to the work resulted.

#### PROPOSAL FROM THE LONG ISLAND RAILROAD COMPANY FOR RAPID TRANSIT CONNECTION

At the close of the year the Commission still had under consideration the proposal submitted to it in March, 1915, by the Long Island Railroad Company to lease to The City of New York, for operation as an extension of the new rapid transit line to Corona, the tracks of the Long Island Railroad leading to Whitestone and to Little Neck.

On January 20 a report from the Chief Engineer of the Commission was received and filed, stating that he could not recommend any lease of the property and franchises of the New York and North Shore Traction Company for rapid transit operation in view of the very substantial changes and alterations which would be necessary in the roadbed, tracks, etc., of the company to fit them for use as rapid transit lines.

On January 27 the Commission adopted a report of the Chief Engineer as to the approximate cost of the proposed extension of the Corona route through Flushing, either by the suggested connection with the Long Island Railroad or by the construction of extensions of the City line. On the same day the Commission adopted a motion appointing Commissioner Henry W. Hodge, Daniel L. Turner, then Deputy Engineer of Subway Construction, Travis H. Whitney, then Secretary of the Commission, and LeRoy T. Harkness, then Assistant Counsel, to act as a committee empowered to confer with the Transit Committee of the Board of Estimate and Apportionment, the Long Island Railroad Company and the operating companies under Contracts Nos. 3 and 4, looking toward such amendments of the operating contracts as might be necessary to provide for the operation covered by the report of the Chief Engineer.

In this report the Chief Engineer concluded that, by a total expenditure of \$2,450,000, the extension of the Corona Line operation over the tracks of the Long Island Railroad to White-stone and Little Neck might be effected. This sum was divided by the Chief Engineer as follows:

An expenditure by the City for connecting the Corona line with the Long Island Railroad tracks, to cost.....	\$410,000
An expenditure by the Long Island Railroad Company for improvements and grade crossing eliminations, to cost.....	1,400,000
An expenditure by the Interborough Rapid Transit Company for additional cars and power facilities, to cost.....	640,000

Such lines, the Chief Engineer concluded, if operated as extensions under Contract No. 3 would result in a deficit to the City in 1917 of about \$180,000, and of about \$200,000 in the year 1927.

Continuing his analysis of approximate cost, the Chief Engineer stated that if the City were to construct new lines over approximately the same territory its expenditure would be \$7,750,000 as against \$410,000 under a lease of the Long Island

Railroad, with a deficit in 1917 of \$412,250, and in 1927 of \$273,500. He held that the City by utilizing the Long Island tracks would save on the average about \$150,000 per year until such time as the increase in traffic would justify it in building its own lines.

Stating that the foregoing conclusions were based on the five-cent fare on both the Whitestone and Little Neck branches, the Chief Engineer pointed out that if all passengers beyond Broadway, Flushing, and College Point were required to pay a second fare the added revenue would amount in 1917 to about \$250,000, less additional operating expenses of \$96,000, providing a net annual revenue of \$154,000 which, subtracted from the original deficit on the one-fare basis of \$180,000, would leave a deficit of about \$26,000.

Comparing assessed valuations of property in the localities which would be served by the extension to Little Neck and Whitestone with corresponding territory in a portion of Bronx Borough, the Chief Engineer concluded that values would enhance about eleven per cent, or almost enough to wipe out the deficit of \$412,000 in the first year of operation if the lines were constructed by the City and operated on the basis of a single fare.

While all these conclusions were problematical, if the two-fare basis were effected, such deficit might be practically wiped out within a very short time. The Chief Engineer also expressed the opinion that operation on the Long Island tracks might even be justified on a one-fare basis, but in view of the problematical results of such operation, he recommended that in the conservation of the City's best interest the two-fare arrangement be effected.

On February 10 the Commission received a letter from Mr. C. L. Addison, Assistant to the President of the Long Island Railroad Company, stating that that company had carefully considered the question of the rental to be charged for a lease of the lines by the City and was unable to make any concessions which would reduce the price of the lease to the City to less than a \$175,000 average for a ten-year period.

On July 19 the Chief Engineer of the Commission submitted the following memorandum further analyzing the traffic which

might be expected by operation of the Long Island Railroad Company's lines and the resultant effect upon the City treasury, which was received and filed by the Commission on August 8, 1916:

The Honorable HENRY W. HODGE,  
*Commissioner.*

July 19, 1916

*Re Proposed Extension of Corona Line Operation over  
L. I. R. R. Tracks to Whitestone and Little Neck*

DEAR SIR:—

On June 16, 1916, I informed you that even if an additional fare were collected from all passengers boarding the trains on the proposed Long Island Railroad extension east of Main street and Bridge street, Flushing, the operating deficit resulting thereby during the first year of operation, 1917, would amount to about \$26,000. Pursuant to your request, I submit herewith a detailed analysis indicating how the above conclusion was arrived at.

In connection with the analysis I transmit herewith one print of a tabulation prepared by the Transit Bureau giving the results of a 24-hour count of traffic in the Third Ward, entitled "Traffic Statistics 24 hours to and from the Third Ward of Queens County and Nassau County December 6, 1915, Investigation No. 12,344." In this tabulation the traffic is divided between the

Long Island Railroad  
New York and North Shore  
New York and Queens County, and the  
Brooklyn Rapid Transit trolley lines

The Long Island Railroad operates from New York to and through the Third Ward to Whitestone Landing and to Port Washington. From the tabulation above referred to the traffic on the Long Island Railroad leaving the Bridge Street and Main Street stations in Flushing (columns 1 and 2 east-bound) amounts to (1120+3550) 4670 passengers east-bound for 24 hours. The traffic leaving the Third Ward is indicated in column 9, which is the amount of traffic leaving Little Neck, which is 1198 passengers east-bound for 24 hours. The difference between the traffic leaving Flushing and the traffic leaving the Third Ward represents the railroad traffic east-bound alighting within the Third Ward and beyond the Bridge and Main Street stations in Flushing, which amounts to

3470 passengers one way during 24 hours. It is assumed that the west-bound traffic from this territory will nearly approximate the east-bound traffic.

1 — Therefore, if an additional fare were collected, these 3470 people would pay such an additional fare.

The New York and North Shore operates a trolley line from Flushing through the Third Ward into Nassau County. A count of the traffic on this line indicates, as shown in the tabulation, that 1967 passengers arrived at Flushing, west-bound, during 24 hours. The count also indicates that at Little Neck the traffic arriving on the cars during 24 hours amounted to 298 passengers. The difference between these two figures: that is, 1967 — 298, or about 1670 passengers, represents the traffic boarding the cars within the Third Ward. The terminus of this line is at Flushing. Our Transit Bureau, from its knowledge of the conditions in this territory, suggests that we assume that about two-thirds of these passengers would transfer from the New York and North Shore to the New York and Queens County cars bound for New York, the remaining passengers representing local traffic to Flushing.

2 — Therefore, about 1100 passengers would be available as second-fare passengers.

The New York and Queens County line operates a trolley line from New York and Flushing, with one branch to College Point and another along Bridge street, Main street and Jamaica avenue to Murray Hill. The line also operates a route from Jamaica to Flushing. The tabulation indicates that the total west-bound traffic leaving Flushing towards New York during 24 hours amounted to 6,482 passengers. From an analysis of the Transit Bureau, these passengers probably originated about as follows:

(a) From the College Point branch, about.	2,000
(b) From the Jamaica line, as indicated in the tabulation, all transferring at Flushing to the New York bound cars of the New York and Queens County line, about.....	1,509
(c) Transferring from the New York and North Shore line, (2) above.....	1,100
(d) From the Murray Hill branch, about.	1,873
Total .....	<u>6,482</u>

Of the above, it is fair to assume that the traffic from College Point, (a), and that from the New York and North Shore line, (c), will pay a second fare. Those passengers from the Jamaica line, however, which is a crosstown line and does not parallel the Little Neck branch of the Long Island railroad, will undoubtedly transfer at Main street, Flushing, and therefore will not pay a second fare on the rapid transit line. Consequently (b) will not represent second-fare passengers. The Transit Bureau believes that about 20 per cent of the traffic originating on the Murray Hill branch will pay a second fare, or about 380 passengers.

3 — Consequently, the traffic on the New York and Queens County line, Manhattan-bound, from Flushing which would pay a second fare east of Main street and Bridge street would be as follows:

	Passengers
From the College Point branch.....	2,000
Transferring from the New York and North Shore . . . . .	1,100
From the Murray Hill branch.....	380
Total . . . . .	<u>3,480</u>

The terminus of the B. R. T. line is at Main street, Flushing. It is fair to assume, therefore, that none of its traffic originates beyond Main street, Flushing. Consequently, none of it will pay the additional five-cent fare.

Summing up, the one-way traffic per day beyond Bridge street and Main street, Flushing, which would pay an additional fare would be as follows:

Long Island railroad traffic or the traffic indicated in (1).....	3,470
New York and Queens County traffic, or the traffic indicated in (3).....	3,480
Total . . . . .	<u>6,950</u>
Assuming a 7 per cent increase in traffic due to increase in population, or.....	487

the result would be a grand total of..... 7,437  
 or say 7,500 passengers who would pay an additional fare; that is, 7,500 passengers would pay an additional fare each way, both of which would

be collected on the extension. Consequently,  
 they would represent an additional annual  
 revenue of about ..... \$250,000  
 Less additional operating expenses of..... 96,000

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providing a net additional revenue of..... \$154,000  
 which, subtracted from the original deficit on  
 the one-fare basis of..... 180,000  
 leaves only a deficit of about..... 26,000  
 as previously stated.

This is practically the same conclusion that we arrived at in our report of January 18, 1916, as representing the conditions if an additional fare were collected from all passengers east of College Point and Broadway, Flushing. Our analysis of the situation at that time was erroneous, for the reason that we assumed that all of the traffic would be divided in proportion to the division of the commutation tickets of the Long Island railroad. A further analysis of the matter discloses the error of such a conclusion.

I wish to point out again that these figures only represent intelligent guesses. The nature of the problem is such that no exact conclusions can be arrived at, but in my judgment these last figures are as reasonable as can be secured.

I can only reiterate that if the two-fare arrangement as indicated is effected, the deficit noted will be wiped out in a very short time, due to the enhancement in property values in the territory affected, and also due to the increased riding that naturally results from improved facilities. What such increase in riding may be is difficult to estimate. It is dependent almost entirely upon the character of service provided by the new facilities.

Very truly yours,

ALFRED CRAVEN,  
*Chief Engineer.*

On August 9 the Commission held a hearing upon the question of whether a five-cent fare or a ten-cent fare should be charged in the event that the railroad tracks were leased for operation in connection with the Queens rapid transit lines. The hearing was largely attended and there was advocacy of both the five-cent fare and the ten-cent fare. At the end of the year no decision had

been reached, as the railroad company had made no proposition which the Commission was willing to accept on behalf of the City.

#### CONSTRUCTION CONTRACTS AWARDED BY THE CITY

As stated above, awarding of contracts for lines of the Dual System is now practically completed. While the Commission awarded a number of contracts during the year and executed and delivered in addition a few contracts awarded in the year 1915, the sum total of such contracts was less than in the year 1915.

As stated in previous reports, the various City-owned lines of the Dual System were divided into contract sections for construction purposes. During the year the Commission awarded but one new contract for general construction on the lines for operation by the Interborough, but several such contracts were awarded and executed on lines for operation by the Brooklyn company, particularly on Route No. 8, the 14th Street-Eastern subway. The contract for Section No. 2 of Routes Nos. 19 and 22, the elevated portion of the Southern Boulevard and Westchester Avenue extensions of the Lexington Avenue subway, which originally had been awarded by the Commission in 1915, was executed and delivered by the Commission early in May, 1916. The history of this particular contract is related elsewhere in this report. This line is one of those assigned to the Interborough for operation under the Dual System Contracts.

The Commission awarded a contract for the construction of the Livonia Avenue Elevated line, Route No. 31,—being the elevated portion of the Eastern Parkway subway in Brooklyn for operation by the Interborough—but later rescinded the award. The reasons for this action will be found on another page.

A résumé follows of the various contracts executed during the year, classified as to the operating companies:

#### LINES FOR OPERATION BY THE NEW YORK MUNICIPAL RAILWAY CORPORATION

*Route No. 8; 14th Street-Eastern Line.*—This is a two-track line which extends from 14th street west of Sixth avenue, Man-

hattan, thence through 14th street, crossing by tunnel underneath the East river, to North 7th street, Brooklyn; thence extending through North 7th street, Metropolitan, Bushwick and Johnson avenues and private right of way to East New York at the intersection of Broadway and Fulton street, Brooklyn. It is divided into six sections, of which four are subway; one is tunnel and one is elevated construction.

Section No. 6, the elevated portion of this route, has not yet been placed under contract by the Commission but it is expected that bids will be requested during the coming year. This portion of the line is known as Route No. 59 and was adopted by the Commission on July 1, 1914, approved shortly thereafter by the Board of Estimate and Apportionment and finally approved by an order of the Supreme Court on April 25, 1916. The Commission is authorized to utilize the right of way of the Long Island Railroad for much of the distance between the eastern end of the subway portion of the line and the connection with the Broadway line in Brooklyn. Negotiations are under way for the purchase of the necessary easement from the railroad company.

Bids for the tunnel section were opened on December 7, 1915, and the lowest bidder was the firm of Booth and Flinn, Ltd., at \$6,639,023.50. The contract, however, was not awarded until January 13, 1916, following an investigation as to the method by which the tunnel should be constructed. This investigation was undertaken by Commissioner William Hayward upon representations by Duncan McBean and others that both time and money could be saved by building the tunnel by the trench method, which was followed in the Harlem tunnel of the First Subway, instead of by shield and compressed air method provided for in the specifications.

Conferences were held by the Commission with all parties concerned and the merits of the two methods carefully investigated. The Commission also consulted with Colonel Black, Chief of Engineers of the War Department, who unhesitatingly declared that the Government would not permit of the obstruction of the river channel and this would make it impossible to use the trench method because the latter would require more or less obstruction to the river service.

As the chief advantage of this method would be to save time, the Commission conferred with the lowest bidder, Booth and Flinn, Ltd., and this firm agreed, if prompt action were taken so that it might obtain the advantage of options upon construction materials, that it would stipulate to complete the contract within 27 months from delivery. On motion of Commissioner Henry W. Hodge the contract for Section No. 3 by unanimous vote was thereupon awarded to Booth and Flinn, Ltd., subject to the stipulation just mentioned.

The tunnel extends from a point under 14th street, Manhattan, about 70 feet west of Avenue B, to and under the East river to a point under North 7th street, Brooklyn, about 50 feet west of the center line of Bedford avenue. The plans call for the construction of a two-track railroad.

The other sections were awarded as follows:

Section No. 1. The Commission opened bids for this section on May 18, at which time Booth and Flinn, Ltd., was the lowest bidder at \$2,528,618.25. The award was made to this firm on May 25. Section No. 1 is a subway under 14th street from a point 300 feet west of Sixth avenue to Irving place, Manhattan.

Section No. 2. Bids were received on May 25, and the Degnon Contracting Company, the lowest bidder, at \$1,972,349, received the award. Section No. 2 is a subway under 14th street from Irving place to midway between Avenues B and C in Manhattan.

Section No. 4. Bids were received on May 16, and the contract later was awarded to the Mason and Hanger Company, Inc., the lowest bidder at \$1,847,174.40. This section is a subway on the Brooklyn side extending from Bedford avenue through North 7th street and Metropolitan avenue to a point near Leonard street, in Brooklyn.

Section No. 5. Bids for this section were opened on May 22, MacArthur Brothers, to whom the contract was awarded, being the lowest bidder at \$1,336,949.85. This section begins at a point between Leonard street and Manhattan avenue under Metropolitan avenue and Johnson avenue and extends to Meserole street and Bedford avenue.

*Route No. 61; 60th Street Tunnel.*—The Dual System plans as originally drafted contemplated a two-track extension of the

Broadway subway through 59th and 60th streets and over the Queensboro bridge to a connection with the new elevated lines in the Borough of Queens. This route was changed under circumstances detailed in the last Annual Report to provide for a tunnel at 60th street approximately parallel to the bridge instead of the use of the bridge.

The matter taken into consideration in the change of the route was an offer made by Michael J. Degnon, the contractor for the subway work in 59th and 60th streets, by which if the land portion of the subway were placed in 60th street alone and the route over the bridge abandoned he would agree to construct a tunnel for not less than \$4,500,000. The tunnel route extends from Second avenue, Manhattan, under East 60th street, the East river, private property, Vernon avenue, North Jane street and private property to a point near Sherman street, Queens, rising to the surface at Sherman street and becoming an elevated structure for a short distance.

Bids for the construction of this route were received by the Commission on July 13, Patrick McGovern and Company, of No. 1 Madison avenue, New York City, being the lowest bidder at \$4,194,797. The Degnon Company, whose bid was the second low offer, named a price of \$4,247,000. Following the opening of the bids the Degnon Company, in view of the proposition which it had made the year previous in connection with the change of route, announced that it intended to protest an award to the lowest bidder, the McGovern Company. After consideration, however, counsel for the Degnon Company announced that it would make no objection to the award to Patrick McGovern and Company, and on July 24 the award was made to the latter concern at the price named above.

*Route No. 12; Flatbush Avenue — St. Felix Street Line (Broadway-Fourth Avenue Subway).*— Three sections of this route are to contain four tracks for operation by the Interborough Rapid Transit Company as a part of the Eastern Parkway route, and two tracks for operation by the New York Municipal Railway Corporation as a part of a connection between the Brighton Beach line and the Fourth Avenue subway. The line begins at St. Felix street in Fulton street, extends south under

the former thoroughfare underneath the Atlantic Avenue station of the Long Island Railroad and turns into Flatbush avenue near Atlantic avenue.

The sections under Flatbush avenue are those just described which contain tracks for both the Interborough and the Brooklyn companies. At the intersection of Eastern parkway and Flatbush avenue the Interborough tracks turn east into Eastern parkway while the New York Municipal Railway Corporation's tracks continue south under Flatbush avenue to Malbone street. The two sections which were awarded on this line during the year were Nos. 1-B and 2-A and will contain New York Municipal tracks only.

Section No. 1-B includes that part of the line which extends south from the north building line of Hanson place a distance of about 688 feet, passing under Hanson place, the Long Island Railroad Company's station and Atlantic avenue to a point in private property south of Atlantic avenue.

By an agreement executed between the City and the Long Island Railroad Company the latter provided directly under its tracks a reinforced concrete slab of sufficient strength to carry the load of the station and the railroad tracks above it. This slab forms the roof of the subway station below it. The railroad company agreed to carry on the work at a cost not to exceed \$500,000, including the easement valued at \$200,000. Following the execution of the contract, work was undertaken by the railroad company.

The Commission later obtained bids for the construction of Section No. 1-B, and the contract was awarded to the Degnon Contracting Company, of No. 30 East 42d Street, New York City, the lowest bidder, on September 18. The contract price was \$810,265.

Section No. 2-A covers that part of the connection between the Fourth Avenue subway and the Brighton Beach line. It extends under Flatbush avenue from Prospect park to the Brighton Beach line at Malbone street. The plans call for a two-track underground railroad. Owing to the great depth of the subway at Prospect Park plaza, caused by the necessity of passing the tracks

for operation by the Brooklyn company underneath those for operation by the Interborough company, the shield tunnel method of construction was adopted as the most economical. The Commission received bids for this section on February 10, 1916, and awarded the contract to the Degnon Contracting Company, the lowest bidder, on February 17. The contract price was \$1,370,098.

*Routes Nos. 5, 4 and 36, 20 and 33 (Broadway-Fourth Avenue Subway).*—The Commission on August 11, 1916, awarded the contract for the installation of tracks upon these sections of the Broadway-Fourth Avenue subway to the T. H. Reynolds Contracting Company, Inc., at \$288,400. The contract covers that portion of the Broadway and Canal Street subways in Manhattan from 59th street to the Battery and by way of the Whitehall-Montague Street tunnel to a connection with the Fourth Avenue line in Flatbush avenue extension, Brooklyn. The contract was delivered on August 30, 1916, and the work is well under way. It is expected that this line between 59th street and the Battery will be in operation by the end of the year. Portions may be placed in operation at an earlier date.

*Routes Nos. 5, 4 and 36 and 20 (Broadway-Fourth Avenue Subway).*—Two contracts for station finish on the Broadway and Canal Street subways were awarded by the Commission during the year, placing all of the stations between the Battery and 28th street and one station on the Canal Street line under contract. On March 16 the Commission awarded to D. C. Serber the contract for station finish for the stations between the Battery and 14th street. This contract was later assigned to the Serber-Stander Company. The contract price was \$344,716.35. The contract was delivered on April 25 and the work on many of the stations is now nearing completion.

On September 18, 1916, the Commission awarded to the same company the contract for the station finish on the Canal Street, 23d Street and 28th Street stations at \$149,324.75. The contract was executed on October 20 and the work is being progressed as rapidly as possible so as to admit of opening the line at an early date.

*Route No. 49; Gravesend Avenue Elevated Railroad (Culver Rapid Transit Railroad).*— This route is one of the elevated extensions of the Fourth Avenue subway in Brooklyn. It begins at a point near Tenth avenue and 37th street where it connects with a spur from the Fourth Avenue line in open cut, continues along private property south of 37th street into Gravesend avenue and extends over and along Gravesend avenue and Shell road to Surf avenue.

During the year the Commission created a third section upon this line in addition to the two already under construction. The new section begins at the end of Section No. 2 at a point 525 feet south of Avenue X and extends to the Coney Island terminal of the New York Municipal Railway Corporation. The contract for Section No. 3 will soon be let by the City as the result of the failure of negotiations between the Commission and the Brooklyn company by which the latter had the privilege of providing the connection between the end of Section No. 2 and the Coney Island terminal. It is not the intention, however, that the City shall construct the whole section but only as far as Sheepshead bay, inasmuch as an agreement perfected toward the end of the year with the Brooklyn company provides that the connection with the terminal will be made by the company. The new section is about 4,500 feet in length, of which 3,500 feet will be City construction and about 1,000 feet company construction. The line will in part have two tracks and in part three tracks.

Section No. 1-A. The Commission on December 4 awarded to Thomas Dwyer the contract for the construction of Section No. 1-A, which is the connecting link between the New Utrecht Avenue (West End line) and the Culver Rapid Transit Railroads (Gravesend Avenue route). The contract price was \$42,268. The connection is a three-track approach from the West End line to the Culver line, some 600 feet in length, rising from the 38th Street cut at the point where the West End line leaves that cut slightly west of Tenth avenue and south of 37th street. The approach rises to the elevated grade of the Culver line at a point 371 feet east of Tenth avenue.

The Commission during the year also let the contract for track installation on Sections Nos. 1-A, 1 and 2 to Kaufman and

Garcey, the lowest bidder, at \$103,680. The contract was delivered on October 21, 1916, and it is expected that the work will be completed this year. There was also awarded by the Commission a contract for the construction of concrete track floors and platforms for eleven stations on Sections Nos. 1 and 2. The award was made on October 23 to the Snare and Triest Company, the lowest bidder, for \$52,654.

#### LINES FOR OPERATION BY INTERBOROUGH RAPID TRANSIT COMPANY

*Route No. 5; Lexington Avenue Subway.*— This line which is the new double-decked, four-track subway which, in connection with the First Subway below Park avenue and 40th street, is to form the new east side trunk line, is all under contract and practically completed, with the exception of the important work at the Diagonal station under 42d street between Park and Lexington avenues. This work, however, is being advanced with the greatest rapidity in order to afford much needed relief. During the year two contracts were let for station finish on Route No. 5.

On June 1, the Commission awarded to John B. Roberts, the lowest bidder, the contract for the construction of station finish for Sections Nos. 7 to 11, inclusive, at the bid price of \$278,182.66. On June 8, the Commission awarded to A. W. King and Company, the lowest bidder, the contract for station finish on Sections Nos. 12 to 15, inclusive, at \$316,091.06. Both contracts were executed in August and work was begun immediately.

The Commission also awarded on December 14 to W. G. Stearns, the lowest bidder, for \$11,075, a contract for the installation of cable feed pipes in the Lexington Avenue subway for Sections Nos. 8 to 11, inclusive, between 54th and 105th streets.

*Route No. 18; White Plains Road Extension.*— As a result of negotiations conducted during 1915 by which an exchange of property with the Park Department of New York City was effected, the Commission was able to advertise for bids for the construction of a railroad storage yard at 180th street adjoining Bronx park for the use of this line.

It has been the intention so far as possible under the Dual System Contracts to provide storage yards for cars so that it will not be necessary to use railroad tracks to so great an extent as formerly for this purpose. The contract was awarded to the Thomas J. Buckley Construction Company, the lowest bidder, for \$269,222.50. The general plan calls for construction of a yard built upon embankment in part. It will have capacity for about 275 cars.

On October 5 the Commission awarded also to the Thomas J. Buckley Construction Company, the lowest bidder, at \$372,893, the contract for the construction of a railroad yard for the storage of cars in the vicinity of 239th street. It is officially designated as the 239th Street yard, although it covers an area of several city blocks, beginning a short distance east of White Plains road and north of 239th street.

For the construction of this yard there was taken part of a large parcel purchased some time before by the Interborough Rapid Transit Company. The 239th Street yard will provide accommodation for approximately 580 subway cars on 37 tracks. On a part of the same plot, adjoining the yard for subway cars, the Interborough Company will construct a yard having capacity for about 350 elevated railroad cars. The approach to both yards will be over the same tracks, construction of the approach involving partial reconstruction of the White Plains Road line between the Nereid Avenue station and the terminal station at 241st street. This reconstruction will avoid grade crossings at the entrance to the yard.

*Route No. 18 (White Plains Road Line).*— The awarding of a contract for the installation of tracks on this line had a history beginning in 1915, part of which was related in the last Annual Report. The Commission received bids for this work on November 23, 1915, at which time the Coast and Lakes Contracting Corporation was the lowest bidder at \$53,930.50. The President of the corporation, D. J. Boylan, filed an application under date of November 26, addressed to the Chief Engineer, requesting permission to withdraw the bid which was only about half that of the next lowest bidder. Mr. Boylan complained that an error in

transferring figures had been made by his engineers. The Commission, however, on December 7 awarded the contract to the Coast and Lakes Corporation and the contract was forwarded to the Board of Estimate for approval. The Board of Estimate referred the matter back to the Commission with a request for further information.

In the meantime, under date of January 24, 1916, the contractor, through Mr. Boylan, its President, signed a stipulation that, if the Public Service Commission would permit him to withdraw his bid and reject all bids, he would agree to pay the cost of readvertising the contract for the work at an expense not to exceed \$300 and would agree to the retention by the Commission of a certified check for \$5,000 originally deposited with his bid, the check to be retained as security for carrying out the terms of the stipulation by which the Coast and Lakes Contracting Corporation agreed to make a new bid to be not greater than \$94,280.50, which, it was stated by Mr. Boylan, was the sum that the company originally contemplated as its bid and would have bid but for the mistake in transferring figures from one sheet to another.

In deciding to readvertise, the Commission had before it a report of its Chief Engineer stating that the original bid was unquestionably below the figure at which the work could be profitably performed and undoubtedly was a mistake. New bids were opened on February 10, 1916, and of the three bidders who presented offers the Coast and Lakes Company was low with its bid of \$94,280.50 as agreed in the stipulation. The Commission thereupon awarded the contract to the Coast and Lakes Contracting Corporation and the contract was executed and delivered on April 13 last. The work of installing the tracks is now practically completed and the line will be ready for operation early in the new year.

*Routes Nos. 5, 43 and 16.*— The contract for the track installation on these sections covering the Lexington Avenue subway, the 149th Street connection and the Jerome Avenue extension was awarded by the Commission on March 2, 1916, to the Empire Construction Company, the low bidder, for \$276,433.55. The contract was executed on March 30 and is now well advanced.

*Routes Nos. 4 and 38, 48 and 33.*—The contract for the installation of tracks on the Seventh Avenue subway was awarded on September 14 by the Commission to Engel and Hevenor, the lowest bidder, for \$229,440.50. The contract calls for the laying of tracks from the junction of the Seventh Avenue line with the First Subway in Times square and thence southerly under Seventh avenue; Seventh Avenue extension, Varick street, West Broadway and Greenwich street to a junction with the First Subway at Battery park. It also includes the installation of tracks on the Park Place, William and Clark Street subway from its connection with the Seventh Avenue line at West Broadway and Park place to and under the East river by tunnel and under private property and various thoroughfares to a connection with the First Subway in Brooklyn near Joralemon street.

*Routes Nos. 43 and 4 & 38.*—The Commission on October 19 awarded to Louis Wechsler, of 1133 Broadway, the lowest bidder, at \$382,521 the contract for the construction of station finish for five stations on the Seventh Avenue line and one station on the Lexington Avenue line, the latter being the Diagonal station at 42d street between Park and Lexington avenues. The five stations on the Seventh Avenue line covering this contract were those at Times square, Pennsylvania station (33d street) 28th street, 23d street and 18th street. Certain additional finish work on the Seventh Avenue line was included. The lowest bidder, after presenting his bid asked permission to withdraw on the ground of ill health. The Commission, however, refused to consent to such withdrawal but agreed to an assignment of the contract.

*Routes Nos. 4 & 38.*—Bids for the station finish on the lower portion of the Seventh Avenue line, Manhattan, from the Battery to 14th street, inclusive, were received by the Commission on December 28, following a rejection of bids received at a previous letting. On the second letting the Seventh Avenue Construction Company was the low bidder at \$389,880.27½.

The first bids were received on December 4. On that occasion the Seventh Avenue Construction Company was the lowest bidder at \$399,770.57½ while Thomas Dwyer was the next lowest bidder at \$413,652.35. A question was raised as to the completion of the

incorporation of the Seventh Avenue Company at the time the bids were received. Owing to this informality the Commission on December 13 decided to reject all bids and to readvertise for bids — to be received December 28.

The Commission in rejecting the bid of the Seventh Avenue Company acted to prevent possible litigation and in the belief that in so doing the station finish work could be gotten under way quickest. Mr. Dwyer filed a protest against rejection of the bids, claiming that the Seventh Avenue Company was not fully incorporated at the time the bid was received and hence that no bid had been received from it. He maintained that upon such a premise his was the low bid and that the award should be made to him.

*Routes Nos. 16 & 18 and 36 & 37.*—On November 16 the Commission awarded to the H. C. Stowe Construction Company, the lowest bidder, for \$110,650.71 a contract for the construction of thirteen signal towers on the Jerome Avenue extension, on the White Plains Road extension and on the new Queens lines. Three of the towers are to be located on the Jerome Avenue line, three on the White Plains Road line, and the remaining seven are to be installed at various points on the Queens lines. The contract has not yet been executed, inasmuch as the City authorities have raised the question as to whether the signal towers should not be charged to cost of equipment rather than to construction. The Commission on December 27 directed the Interborough to do the work as a part of equipment.

#### MISCELLANEOUS CONTRACTS AWARDED IN 1916 BY THE COMMISSION

"Q" Varnish, to J. W. Masury & Son, awarded January 27, delivered March 3, amount \$2,265.

"C" Varnish, to Chase, Roberts & Company, awarded November 22, not yet delivered; amount \$2,736.

Reconstruction of stairway at northeast corner of Rector street and Trinity place, to John B. Roberts, awarded August 23, not yet executed; amount \$1,858.

Stairways and side walls on Route No. 5, Section No. 2-A, to Underpinning and Foundation Company, awarded November 29, not yet executed; amount \$9,950.

Track floor on Route No. 5, Section No. 2-A, to Underpinning and Foundation Company, awarded November 29, not yet executed; amount \$3,500.

Removal of stairways at Chambers Street station, Municipal building, to Snare and Triest Company, awarded April 27, delivered June 20; amount \$2,160. (Only one stairway has been removed under this contract — at a cost of \$1,300.)

Relocation of trolley tracks on Queensboro Bridge plaza, Routes Nos. 36 & 37, Section No. 1, to Thomas Crimmins Contracting Company, awarded October 11, not yet executed; amount \$2,900.

Removal of elevated railroad column at Flushing and Second avenues; Routes Nos. 36 & 37, Section No. 2, to Post & McCord, Inc., awarded August 30, delivered November 3; amount \$1,835.

Ten-inch cable feed pipes on Route No. 5, Sections Nos. 8, 9, 10 and 11, to W. G. Stearns, awarded December 14, not yet executed; amount \$11,075.

Numerical station marking in river tunnels, to Samuel Finkelstein, awarded December 27, not yet executed; amount \$1,844.75.

#### CONSTRUCTION OF DUCT LINES

On September 10, 1915, the Commission awarded to E. C. Moore for \$34,905.90 a contract for the construction of a duct line to be built under 44th street from Lexington avenue to First avenue, thence south to 42d street, thence under 42d street to shaft No. 2, to carry the power cables from a connection with the Lexington Avenue line over to the new Queens lines for the operation of the Queensboro subway and the Queens extensions.

Following the award of the contract, the Commission submitted the bids to the Board of Estimate with a request for the necessary appropriation. Controversy arose as to whether the contract was one for construction or for equipment and whether it should be awarded by the Commission or by the Interborough Rapid Transit Company.

When the completion of the duct line had become imperative Chairman Oscar S. Straus wrote to Mayor Mitchel, requesting his coöperation in settling the situation. Following conferences the Board of Estimate acted and gave its approval of the contract. The City authorities, however, demanded that a stipulation be

executed in connection with the contract by which it was provided that the question as to whether these duct lines should be charged to construction or to equipment would be later decided by the courts. The Commission then offered to execute the contract with Mr. Moore, the lowest bidder, but he declined to accept it on the ground that the cost of doing the work had increased in the intervening period and that he could not afford to take the contract at the price at which he bid. Upon his declination the Commission sought to execute the contract with Knight & DeMicco, Inc., the next lowest bidder, for \$38,847.50. That concern, however, refused to take the contract, stating reasons similar to those given by Mr. Moore. The Commission thereupon offered the contract to the Beaver Engineering and Contracting Company who were third low in the bidding at \$38,915.50. The award was made on May 25, and executed on June 26.

The Commission on July 20 awarded to the T. H. Reynolds Contracting Company, the low bidder, at \$10,307 the contract for the construction of a series of duct lines in 157th street and other thoroughfares in The Bronx in connection with the extensions of the Lexington Avenue line in that borough. The contract was executed on August 13 and work was immediately begun.

On June 15 the Commission awarded to the Empire Construction Company, the low bidder, at \$9,797.25 the contract for the construction of a duct bench in 153d street. The contract, however, has not yet been delivered, certain questions as to the work remaining to be settled.

#### CONTRACT WITH LAWRENCE C. MANUELL

*Routes Nos. 19 & 22 (Southern Boulevard and Westchester Avenue Extension).*—After five months of negotiations between the Board of Estimate and the Commission, a contract with Lawrence C. Manuell for the construction of the Pelham Bay Park elevated extension of the Lexington Avenue subway was executed on May 5 last. The contract in question comprises about four miles of line and is known as Section No. 2 of Routes Nos. 19 & 22, beginning at a point over Whitlock avenue near Bancroft street, The Bronx, at the end of the subway portion of the South-

ern Boulevard and Westchester Avenue line, and extending north-  
erly over Whitlock avenue to Westchester avenue near Eastern  
boulevard and thence out Westchester avenue to Pelham Bay  
park.

The line when completed will offer the residents of the north-  
eastern portion of The Bronx the first real rapid transit service  
enjoyed by them. The contract price was \$2,063,877.50. Shortly  
after executing the contract it was assigned to the Flick & Manuell  
Construction Company. Delay which was caused in the execution  
of this contract arose over the question raised by the City author-  
ities as to whether duct lines included in the contract were prop-  
erly chargeable to construction or to equipment. The contract  
was awarded by the Commission on December 1. After represen-  
tations had been made to the Board of Estimate as to the neces-  
sity for getting the contract executed, else the City might suffer  
considerable loss in the face of a rising market for structural  
steel, approval by that Board was given on February 18, 1916.

The Board, however, appropriated only \$1,651,102, omitting  
the duct work. Realizing the importance of getting the work  
under way and in view of the fact that Mr. Manuell possessed a  
valuable option for structural steel at a low price, the Commission  
endeavored to get his consent to the contract as modified by the  
Board of Estimate. In reply, Mr. Manuell informed the Com-  
mission that omission of the duct work would seriously affect his  
profits and that he could not accept the contract with such work  
omitted. In addition, he added that the rising price of materials  
and labor made it important for him to ask for leave to withdraw  
from the contract.

Thereupon the Commission again took up with the Board of  
Estimate the advisability of passing the Manuell contract as orig-  
inally submitted to it. The Board of Estimate finally consented  
with certain stipulations fully protecting the City, to which Mr.  
Manuell consented.

By getting the Manuell contract executed it is estimated that  
the Commission was able to save The City of New York upwards  
of a million dollars. The contractor possessed an option for  
steel at \$51.60 per ton which he was able to exercise at the time

of signing the contract, but had delay longer continued the option would have lapsed and the 30,000 tons of structural steel needed for the work would have cost in the neighborhood of \$80 or more per ton. The work is now under way, ground having been broken at Grant circle, 177th street and Westchester avenue on May 27, 1916, following appropriate exercises attended by members and officials of the Commission, City officials, officers of the Interborough and others.

#### REJECTION OF LIVONIA AVENUE CONTRACTS

*Route No. 31 (Livonia Avenue Rapid Transit Railroad).—* An award was made on June 1 last by the Commission to Dennis E. Conners, lowest of six bidders, at \$1,376,122 for the construction of Route No. 31, the Livonia Avenue elevated extension of the Eastern Parkway subway in Brooklyn. This is a two-track elevated extension of the subway in question and runs from a connection with the Eastern Parkway line at Buffalo avenue over and along East 98th street and Livonia avenue to New Lots avenue, the end of the Interborough system in Brooklyn.

After the Conners and other bids were received on this work the Commission on June 5 received bids for the supply of approximately 52,000 tons of structural steel for use in the construction of various portions of the Dual System of rapid transit. The Commission made this move in the effort to determine if it might not be possible in the face of a steel market rapidly rising to let separate contracts for steel work of several lines, and for the erection of the same, thereby obtaining a lower rate for the work than would be had by letting general construction contracts including the purchase of steel and its erection.

Therefore, the Commission advertised for 52,000 tons of steel to be used on the 14th Street-Eastern line, on the Livonia Avenue line, on the Mott Avenue connection, on the extension of the Queensboro subway to Times square, on the Nassau Street line and on several other similar contracts. Three bidders presented proposals. McClintic, Marshall & Company, the American Bridge Company, and the Pennsylvania Steel Company all submitted bids and each was low upon certain of the items.

The American Bridge Company submitted an alternative bid for the furnishing of all the steel. After thorough consideration had been given by the Commission to these bids, recommendations were made by the Chief Engineer that they be rejected, in the belief that the steel market which had been rising by leaps and bounds would soon break and that lower prices would be obtainable. Hence, the Commission on June 22 rejected all of the bids obtained on the contract for structural steel.

In the meantime the Commission had on June 8 rescinded its action of June 1 in awarding the contract for the work on the Livonia Avenue line to Dennis E. Connors, and laid on the table a motion to reject all of the bids, the Commission possessing such right under the form of contract adopted by it.

On June 20, following the taking by the Commission of bids upon the proposed structural steel contract, Mr. Connors wrote the Commission, agreeing to make certain reductions in his bid for steel amounting to approximately \$20,000.

On June 27 the Chief Engineer of the Commission reported in favor of rejecting all bids and on June 29 the Commission took such action. At the end of 1916 the Commission readvertised for bids under forms of contract allowing the contractor to bid for steel work and its erection or for erection alone. Bids for the supply of steel were also invited.

#### TRACK MATERIALS CONTRACTS

During 1916 the Commission continued as in previous years the purchase of ties, materials, rail, special work, etc. The following contracts were awarded for such materials:

Ties and Timber Treated, to Eppinger and Russell, awarded July 20, delivered August 14; amount \$5,500.

Special Work, Order No. 7, to Ramapo Iron Works, awarded May 11, delivered June 22; amount \$85,889.

Special Work, Order No. 8, to Pennsylvania Steel Company, awarded July 13, delivered September 11; amount \$65,316.

Special Work, Order No. 9, to Ramapo Iron Works, awarded September 6, delivered October 25; amount \$29,859.

Special Work, Order No. 10, to Ramapo Iron Works, awarded September 14, delivered October 25; amount \$11,427.

Noiseless Track Device, to Vulcan Rail and Construction Company, awarded May 18, delivered July 6; amount \$500.

#### SUMMARY OF CONSTRUCTION CONTRACTS

Following is a summary of all construction contracts upon the new lines of the Dual System, either completed or awarded up to December 1, 1916:

PROGRESS ON DUAL SYSTEM CONTRACTS — DECEMBER 1, 1916  
INTERBOROUGH LINES  
CITY CONTRACTS

Sec.	Contractor	Limits	Contract Delivered	Time Expires	Amount of Bid	Per Cent Employees, of Value Done	Average (Daily)
<b>Route Nos. 43 &amp; 26 — Diagonal Station Connection</b>							
1	Rapid Transit Subway Construction Co.	Connection between existing subway and Lexington Ave. and Stenway Line	12/ 3/14	4/ 3/17	\$3,097,312.50	72	356
<b>Route No. 43 — Diagonal Station Connection</b>							
2	New York Central Railroad Co.	Under New York Central property	1/20/15	.....	\$902,500.00	.....	.....
<b>Route No. 5 — Lexington Avenue Subway</b>							
7	Rapid Transit Subway Construction Co.	Lexington Ave., 43d to 53d St.	8/ 7/14	3/ 7/17	1,915,164.50	71	383
8	Bradley Contracting Co.	Lexington Ave., 53d to 67th St.	7/21/11	12/21/15	3,369,484.20	100	.....
9	Patrick McGovern & Co.	Lexington Ave., 67th to 79th St.	2/13/12	9/21/15	1,981,997.00	100	.....
10	Bradley Contracting Co.	Lexington Ave., 79th to 93d St.	7/21/11	11/21/15	3,253,072.80	100	.....
11	John B. Roberts	Station finish, Sections 7 to 11 inclusive.	8/10/16	2/10/17	278,182.66	15	83
11	Bradley Contracting Co.	Lexington Ave., 93d to 106th St.	7/21/11	11/21/15	3,132,195.05	100	.....
12	Oscar Daniels Co.	Lexington Ave., 106th to 118th St.	9/13/11	1/10/16	2,825,740.74	100	.....
13	Assigned to McMullen, Snares & Triest, Inc.	Lexington Ave., 118th to 129th St.	11/17/11	11/17/16	4,071,416.50	100	43
14	Arthur McMullen & Hoff Co.	Lexington Ave. and 129th St., Manhattan, to 137th St., The Bronx	7/23/12	11/23/15	3,889,775.05	100	5
15	Assigned to Rodgers & Hagerty, Inc. A. W. King & Co.	Mott and Gerard Aves., 135th to 157th St. Station finish, Sections 12 to 15 inclusive.	11/17/11	11/17/15	3,820,129.75	100	.....
			8/11/16	2/11/17	316,091.06	19.9	103
<b>Route No. 16 — Jerome Avenue Extension</b>							
1	Oscar Daniels Co.	Jerome Ave., 157th to 182d St.	12/31/13	10/ 3/15	1,077,978.00	100	.....
2	Cooper & Evans Co.	Jerome Ave., 182d St. to Woodlawn Rd.	4/ 3/14	10/ 3/15	1,076,881.00	100	.....
<b>157th Street Duct Line</b>							
	T. H. Reynolds Con. Co.	Construction of 157th St. Duct Line	8/14/16	10/14/16	10,307.00	98.6	10
<b>Route No. 18 — White Plains Road Extension</b>							
1	Oscar Daniels Co.	Bronx Park East to White Plains Rd. and Burke St.	3/24/14	2/ 1/16	914,400.25	98.4	.....
2	Alfred P. Roth	White Plains Rd., Burke St. to 241st St.	1/13/14	1/10/16	958,484.00	100	.....
	Coast & Lakes Con. Corp.	Track installation, Bronx Park to 241st St.	4/13/16	8/13/16	94,280.50	40.7	111
	Thomas J. Buckley Const. Co.	Construction of 180th St. Yard	8/15/16	8/15/17	269,232.50	6.3	51
	Thomas J. Buckley Const. Co.	Construction of 239th St. Yard	12/ 8/16	.....	372,893.00	.....	.....

Routes Nos. 5, 43 & 16 — Track Installation, Lexington Ave. Subway, 149th St. Connection & Jerome Ave. Extension					
Empire Const. Co.	Installation of tracks.	3/30/16	9/30/16	276,433.65	117
Altoris Realty and Const. Co.	Jerome Ave. and White Plains Rd. Lines	10/13/15	4/13/16	890,636.50	102
1 Richard Carvel Co., Inc.	138th St. and Southern Boulevard & Westchester Avenue Extension	10/23/12	8/22/16	2,263,281.75	419
1-A Rodgers & Hagerty, Inc.	Southern Boulevard and Whitlock Ave., 147th St. to Hancock St.	12/31/13	6/30/16	2,263,159.25	129
2 Assigned to Flick & Mannell Const. Co.	Westchester Ave., Whitlock Ave. to Pelham Bay Park	5/ 5/16	9/ 7/17	2,068,877.50	151
1-A Rapid Transit Subway Construction Co.	Routes Nos. 4 & 38 — Seventh Avenue-Lexington Avenue Subway South Ferry to Battery Pl. and Greenwich St.	9/ 4/14	4/ 4/17	474,244.00	25
1 Rapid Transit Subway Construction Co.	Greenwich St., Battery Pl. to Vesey St.	6/19/14	3/19/17	2,121,077.25	541
2 Degnon Contracting Co.	West Broadway, Vesey to Beach St.	3/13/14	3/13/17	3,059,522.00	453
3 Degnon Contracting Co.	Variety St. and Seventh Ave. Ext., Beach to Commerce St.	12/31/13	12/31/16	2,185,063.50	208
4 U. S. Realty & Imp. Co.	Seventh Ave., Commerce to 16th St.	4/17/14	1/17/17	1,837,726.50	596
5 U. S. Realty & Imp. Co.	Seventh Ave., 16th to 30th St.	12/31/13	12/31/16	2,401,806.75	403
6 Rapid Transit Subway Construction Co.	Seventh Ave., 30th to 43d St.	2/24/14	2/24/17	2,292,943.50	411
6-A Halbrook, Cabot & Rollins Corp.	Seventh Ave., 43d to 45th St.	8/ 6/14	5/ 6/17	421,566.00	100
Assigned to John B. Roberts.	Routes Nos. 4 & 38 and 43 — Station Flank, Seventh Avenue Subway & Diagonal Station Connection Sections 5, 6 and 6-A of Rtes. 4 and 38; Sections 12/ 5/16	12/ 5/16		382,531.00	
1 Frederick L. Cranford, Inc.	Route No. 48 — Park Place, William and Clark Street Subway Park Pl. and Beekman St., West Broadway to 12/ 7/14	4/ 7/17		1,571,363.50	324
2 Smith, Hauser & Macfasc, Inc.	William St., Beekman St. to Old Slip.	12/ 7/14	4/ 7/17	2,254,670.00	277
3 Assigned to Flinn-O'Rourke Co., Inc.	Old Slip, Manhattan to Clark St., Brooklyn.	8/ 6/14	2/ 6/18	6,469,916.25	882
Engel & Hevenor.	Routes Nos. 4 & 38, 43 and 33 — Track Installation, Seventh Avenue Subway Installation of tracks.	11/ 1/16		229,440.50	
1 Cranford Co.	Route No. 12 — Eastern Parkway, Brooklyn, Subway Flatbush Ave. and St. Felix St., Fulton St. to Prospect Pl.	7/16/14	1/16/17	2,195,296.25	398
1-A Cranford Co.	Flatbush Ave., Prospect Pl. to Plaza.	5/ 4/14	11/ 4/16	2,225,519.25	402
2 Inter-Continental Const. Corp.	Eastern Parkway, Prospect Park Plaza to Nostrand Ave.	6/16/15	4/16/17	2,744,263.00	347
3 Rodgers & Hagerty, Inc.	Eastern Parkway, Nostrand Ave. to Buffalo Ave.	9/25/15	5/25/17	2,170,652.50	333

\* Includes \$500 for real estate.

## INTERBOROUGH LINES — Concluded

Sec.	Contractor	Limits	Contract Delivered	Time Expires	Amount of Bid	Per Cent Employees, of Value Done (Daily)
<b>Route No. 29 — Notrand Avenue, Brooklyn, Subway</b>						
1	Assigned to Newman & Carey Sub- way Const. Co., Inc.	Notrand Ave., Eastern Parkway to Church Ave.	8/20/15	5/20/17	\$2,073,303.20	29
2	Dock Contractor Co.	Notrand Ave., Church to Flatbush Ave.	10/ 8/15	7/ 8/17	1,692,370.70	38
<b>Routes Nos. 36 &amp; 37 — Woodside, Astoria and Corona Elevated Line</b>						
1	Snare & Triest Co.	Queensboro Bridge Plaza, Jackson Ave. and Diagonal St.	10/ 7/13	4/ 3/16	884,850.00	99
2	Copper & Evans Co.	Second Ave., Beebe Ave. to Ditmars Ave.	3/11/13	9/11/14	880,743.50	100
3	E. E. Smith Contr. Co.	Queens Boulevard and Roosevelt Ave., Van Dam St. to Alburdis Ave.	3/11/13	1/ 7/16	2,063,568.00	100
3	Murphy Bros.	Storm drain, Queens Boulevard, Hill St. to Gosman Ave.	12/ 6/15	3/ 6/16	7,421.25	100
<b>Routes Nos. 36 &amp; 37, 16 and 18 — Signal Towers for Queens and Bronx Lines</b>						
	H. C. Stowe Const. Co.	13 Signal towers for Queens Lines, and Jerome Ave. and White Plains Rd. extensions	.....	.....	110,650.71	.....
<b>Routes Nos. 36 &amp; 37 and 59</b>						
1 & 3 and R. 50	Snare & Triest Co.	Station finish, Queensboro Subway Extension and Corona Line	10/ 4/15	4/ 4/16	609,835.00	54
2	Charles Meeds & Co. Thomas Grimmins Con. Co.	Station finish, Astoria Line Installation of tracks	10/ 5/15 12/14/15	4/ 5/16 6/14/16	268,102.50 204,898.10	74 55
<b>Route No. 26 — Queensboro Subway</b>						
	Rapid Transit Subway Const. Co.	Madison Ave. and 42d St., Manhattan, to Davis St., Queens	4/14/14	6/15/15	383,910.75	100
	Beaver Engineering & Const. Co.	Construction of 44th St. Duct Line	6/28/16	8/28/16	38,918.80	58
1	Thomas J. Waters Co.	Station finish for Grand Central Station on Queensboro Subway	8/15/16	11/15/16	22,648.18	36
<b>Route No. 50 — Queensboro Subway Extension</b>						
	Degnon Contracting Co.	Davis St. and Ely Ave., Van Alst Ave. to Queens- boro Bridge Plaza	12/31/13	4/ 3/16	557,856.50	92
	Station Const. Co.	Station finish for Hunters Pt. Ave. station, for temporary operation	11/22/15	1/15/16	2,999.99	100
	Degnon Contracting Co.	Station finish for Hunters Pt. Ave. station	4/28/16	8/28/16	32,219.23	80
						3

7th Div.

2d Division

## COMPANY CONTRACTS

Third-tracking Elevated Railroads in Manhattan and The Bronx				8/13/15		(Cost plus percentage)	203	
Terry & Trench Co., Inc., Snare & Trist Co., and T. A. Gillespie Co.				2/13/14				
Avenue Elevated Lines								
Extensions of Elevated Railroads in Manhattan and The Bronx								
6-D 10-C 9-B	A. L. Guidone & Son, Inc.	West Farms Subway Connection	1/24/16	11/24/16	\$105,791.00	}	363	
	Battery Engineering & Const. Co.	Eighth Ave. and 162d St. Connection	1/24/16	4/24/17	336,784.60			
	M. J. Leahy	Webster Ave. Line	1/24/16	1/24/17	881,110.60			
	Snare & Trist Co.	Connection, Second Ave. "L," Manhattan, to new lines in Queens	1/24/16	1/24/17	55,760.00			
	Thos. Crimmins Con. Co.	Track installation, Webster Avenue Line	1/24/16	1/24/17	225,000.00			
EQUIPMENT								
Line Work		Contractor						Bid
Lexington Avenue		Two duet lines from power house		Thomas Crimmins Con. Co.				\$78,600.00
Steinway Tunnel		Escalator balustrades		John B. Roberts & Co.				
Steinway Tunnel		Motor and Control Equipment for 12 steel cars		General Electric Co., Westinghouse Electric & Mfg. Co.				
Queensboro Subway		Order for 12 steel cars		Pressed Steel Car Co., Westinghouse Electric Co., General Electric Co., J. G. Brill Co.				150,000.00
Queens Lines		Hoisting and installing third rail		Thomas Crimmins Con. Co.				

## NEW YORK MUNICIPAL LINES

## CITY CONTRACTS

Sec.	Contractor	Limits	Contract Delivered	Time Expires	Amount of Bid	Per Cent of Value Done	Employees, Average (Daily)
<b>Route No. 5 — Broadway-Fourth Avenue Subway</b>							
1	F. L. Crawford, Inc.	Trinity Pl. and Church St., Morris to Fulton St.	9/27/12	1/27/16	\$1,222,269.20	100	100
1-A	F. L. Crawford, Inc.	Church and Vesey Sts. and Broadway, Fulton St. to Park Pl.	9/27/12	1/27/16	982,740.70	100	100
2	Degnon Con. Co.	Broadway, Park Pl. to Walker St.	2/6/12	11/2/15	2,355,828.50	100	100
2-A	O'Rourke Engineering Const. Co.	Broadway, Walker to Howard St.	7/17/12	7/11/16	912,351.60	100	100
3	Underpinning & Foundation Co.	Broadway, Howard to Bleeker St.	1/19/13	9/19/15	2,395,086.50	100	100
4	Deek Con. Co.	Broadway, Bleeker St. to Union St.	8/19/13	8/19/16	2,578,078.00	99.5	43
1-4	(Incl.) Assigned to Serber-Stander Co., Inc.	Station Finish, Battery to 14th St.	4/25/16	11/25/16	344,716.35	46.9	102
<b>Routes Nos. 4 &amp; 36 — Broadway-Fourth Avenue Subway</b>							
1	E. E. Smith Con. Co.	Broadway, Union Sq. to 26th St.	8/1/13	8/1/16	2,056,702.50	97.8	150
2	U. S. Realy & Imp. Co.	Broadway, 26th to 38th St.	7/23/14	3/23/17	2,657,004.50	73.9	480
3	Holbrook, Cabot & Rollins Corp.	Broadway and Seventh Ave. 38th to 51st St.	9/8/15	6/8/17	3,740,913.50	33.2	806
4	Litchfield Const. Co.	Seventh Ave., 51st to 59th St.	5/26/15	3/26/17	1,937,609.00	44.8	480
5	Degnon Con. Co.	59th and 60th Sts., Seventh to Second Ave.	8/6/14	1/6/17	2,319,511.00	42.7	560

3d Division

Equip. Insp. Bur.

1st Division

## NEW YORK MUNICIPAL LINES — Continued

Sec.	Contractor	Limits	Contract Delivered	Time Expires	Amount of Bid	Per Cent Employees of Value Added Done
		Route No. 23 — Broadway-Fourth Avenue Subway				
1	Assigned to Flinn-O'Rourke Co., Inc.	Whitehall St. to Battery Pl. to South St. . . . .	6/17/14	2/17/17	\$2,059,182.00	53.3
2	Assigned to Flinn-O'Rourke Co., Inc.	Whitehall St., Manhattan, to Montague St., Brooklyn . . . . .	7/16/14	1/16/18	5,974,809.50	74.6
3	Flinn-O'Rourke Co., Inc. . . . .	Montague St., Clinton St. to Flatbush Ave. Extension	10/ 9/14	10/ 9/17	3,395,152.00	59.7
		Route No. 61 — Broadway-Fourth Avenue Subway				
	Patrick McGovern & Co. . . . .	60th St., Manhattan, to North Jane St., Queens	8/ 3/16	2/ 3/19	4,104,797.00	3.2
2	Underpinning and Foundation Co. . . . .	Route No. 20 — Canal Street Subway				
		Canal St., Broadway to Bowery . . . . .	7/16/14	3/16/17	1,822,994.25	81.2
	T. H. Reynolds Con. Co. . . . .	Installation of tracks . . . . .	8/30/16		288,400.00	5
	Serber-Stander Co., Inc. . . . .	Route Nos. 4 & 26, 26 and 28 — Track Installation, Broadway-Fourth Avenue Subway			149,324.75	1.6
		Route Nos. 4 & 26 and 20 — Station Finish, Broadway-Fourth Avenue Subway				
1-B	Degnon Contracting Co. . . . .	From Hanson Pl. to Connection with Sec. 1-A. . . . .	10/20/16		810,265.00	25
2-A	Degnon Contracting Co. . . . .	Flatbush Ave., Prospect Park Plaza to Malbone St. . . . .	3/31/16	11/30/17	1,370,098.00	7
		Route Nos. 9 & 11 — Fourth Avenue, Brooklyn, Subway and Extension				
Six Sec-tions	Wm. Bradley Smith, Scott & Co.; Ridewater Building Co. & Thos. B. Bryson and E. E. Smith Con. Co. . . . .	Manhattan Bridge to 43d St. . . . .	11/ 9/09		*16,014,388.26	100
	Irving Iron Works Co. . . . .	Reconstruction of platform edges, Manhattan Bridge to 26th St. . . . .	5/10/15	5/28/15	5,180.00	
9-C-1	Samuel Beekin . . . . .	Reconstruction of DeKalb Ave. Station . . . . .	2/ 5/15	4/12/16	132,947.46	100
11-EA-1	Norton & Gorman Con. Co. . . . .	Removal of temporary sewer . . . . .	3/31/15	6/31/15	18,223.75	100
	Thomas Crummins Contracting Co. . . . .	Installation of tracks from Manhattan Bridge to 86th St. Materials furnished by the city. . . . .	7/21/14	1/21/15	210,860.00	100
11-B-1	Degnon Contracting Co. . . . .	Fourth Ave., 43d to 61st St. . . . .	10/ 4/12	11/ 1/15	1,930,258.50	100
11-B-2	Degnon Contracting Co. . . . .	Fourth Ave., 61st to 86th St. . . . .	10/ 4/12	11/ 4/15	1,904,171.25	100
	Station Construction Co., Inc. . . . .	Station finish for six stations, 43d to 86th St. . . . .	8/ 6/14	8/ 1/15	251,133.72	99
	D. C. Serber . . . . .	Completion of construction and station finish, Hanson Pl. to Butler St. . . . .	6/ 8/15	9/ 8/15	40,076.25	100

\* Includes \$200,000 for real estate.

1st D.

6th Division

1st Div. 7th Div.

6th Division

Route No. 39 — New Utrecht Avenue, Brooklyn Elevated Line									
1	New York Municipal Railway Corporation	Fourth Ave., 33d. to 39th St.; Culver Cut, Fourth Ave. to Tenth Ave.	2/ 3/14	8/ 3/15	.....	90.5	.....	.....	.....
2	Post & McCord, Inc.	New Utrecht Ave., 86th St. and 39th St. to Coney Island	12/31/13	6/ 1/16	\$1,672,190.00	100	.....	.....	.....
2	Ward & Tully, Inc.	Track installation, New Utrecht Ave., 38th St. to Coney Island	9/10/15	2/10/16	71,325.00	100	.....	.....	.....
2	A. L. Guidone & Son, Inc.	Station finish from 39th St. and Tenth Ave. to Coney Island	11/26/15	5/26/16	513,656.54	46	85	.....	.....
ROUTE No. 39 — Station Construction, New Utrecht Avenue Elevated Line (Sub-Contract under N. Y. M. Ry. Corp.)									
1	Shure & Triest Co.	Ninth Ave. Station	7/15/15	.....	23,940.00	100	3	.....	.....
1	Frank L. Davis	Station finish for Ninth Ave. Station	10/ 8/15	1/ 8/16	16,130.00	100	.....	.....	.....
Route No. 49 — Gravesend Avenue Elevated Line									
1-A	Thomas Dwyer	From 38th St. Cut to Section 1 of Culver Line	9/ 8/15	12/ 8/16	42,268.00	.....	.....	.....	.....
1	Post & McCord, Inc.	Gravesend Ave., 37th St. to Bay Parkway	7/10/15	1/10/17	877,959.00	43	187	.....	.....
2	Oscar Daniels Co.	Gravesend Ave. and Shell Rd., Twenty-second Ave. to Avenue X	.....	.....	863,775.00	54	67	.....	.....
.....	Kaufman & Garvey	Track installation, Sections 1-A, 1 and 2	10/21/16	.....	103,980.00	.....	.....	.....	.....
.....	Shure & Triest Co.	Concrete track floors and platforms of eleven stations, Sections 1 and 2	11/26/16	.....	52,654.00	.....	.....	.....	.....
Route No. 8 — 14th Street-Eastern Subway									
1	Booth & Flinn, Ltd.	14th St., Sixth Ave. to Irving Pl.	8/10/16	6/10/18	2,528,618.25	5	72	.....	.....
2	Degnon Contracting Co.	14th St., Irving Pl. to Avenue B	8/10/16	6/10/18	1,972,349.00	1.7	41	.....	.....
3	Booth & Flinn, Ltd.	14th St., Manhattan, to N. 7th St., Brooklyn	2/26/16	5/26/18	6,639,023.50	6	232	.....	.....
4	Assigned to Mason and Hanger-MacArthur Bros. Inc.	N. 7th St. and Metropolitan Ave., Bedford Ave. to Manhattan Ave.	8/14/16	6/14/18	1,847,174.40	.8	20	.....	.....
5	Assigned to Mason and Hanger-MacArthur Bros. Inc.	Metropolitan and Bushwick Aves., Manhattan Ave. to Meserole St.	8/14/16	6/14/18	1,336,949.85	5	203	.....	.....
Route No. 9-O — Centre Street Loop Subway									
.....	Bradley Contracting Co.; Cranford Co.; Degnon Contracting Co.	Centre St., Brooklyn Bridge to Williamsburg Bridge	.....	.....	**12,894,896.49	100	.....	.....	.....
.....	New York Municipal Railway Corporation	Reconstruction, Centre St., Brooklyn Bridge to Williamsburg Bridge	4/25/18	.....	325,000.00	100	.....	.....	.....
.....	New York Municipal Railway Corporation	Reconstruction, Centre St., Brooklyn Bridge to Williamsburg Bridge	2/ 3/14	11/ 3/14	600,000.00 (Approximate)	100	.....	.....	.....

\*\* Includes real estate.

6th Division

1st D. 6th D.

1st Div.

## NEW YORK MUNICIPAL LINES — Concluded

## COMPANY CONTRACTS

Sec.	Contractor	Limits	Contract Delivered	Time Expires	Amount of Bid	Per Cent of Value Done	Employees Average (Daily)
		<b>Sea Beach Line Reconstruction</b>					
	G. W. McNulty, Inc.	62d and 66th Sts., between Fourth Ave. and 86th St.	10/ 6/13	7/ 6/15	\$1,877,525.00	100	.....
	G. W. McNulty, Inc.	Extra work on Sea Beach reconstruction.....	8/19/14	7/19/15	299,539.00	100	.....
	Wilson & English Const. Co.	Construction of retaining walls and bridges.....	7/21/14	1/21/15	281,882.50	100	.....
	Post & McCord, Inc.	Construction of stations.....	3/ 9/15	9/ 9/15	331,163.03	99	.....
		<b>Coney Island Terminal</b>					
	Lord Const. Co.	Construction of Coney Island Terminal.....	3/14/16	.....	1,279,274.25	15	450
		<b>Brighion Beach Line Reconstruction</b>					
	Inter-Continental Const. Corp.	Malbone St. to Church Ave.....	1/13/16	1/13/18	1,003,529.60	20.6	201
		<b>Lathram Cemetery Line</b>					
1	Cooper & Evans Co.	Private right of way, Wyckoff Ave. to Fresh Pond Rd.	8/28/13	5/ 8/15	245,870.00	100	.....
2	F. W. Burnham.	Private right of way, Fresh Pond Rd. to about 1,050 feet east of Fresh Pond Rd.	2/27/14	7/27/14	143,225.40	100	.....
	F. W. Burnham.	Construction of stations.....	7/22/14	*4 mos.	134,354.00	100	.....
		<b>Liberty Avenue Elevated Line</b>					
	Phoenix Bridge Co.	Liberty Ave., from Borough line to Lefferts Ave., Queens Borough	2/ 9/14	2/ 9/15	707,661.00	100	.....
	P. J. Carlin Const. Co.	Construction of six stations on this line.....	1/ 6/15	*6 mos.	232,000.00	100	2
		<b>Myrtle Avenue Additional Tracks</b>					
	Phoenix Bridge Co.	Steel for additional tracks, Willoughby to Wyckoff Ave.	10/ 1/15	4/ 1/16	.....	100	.....
	Bayly Hiplines.	Erection of steel, etc., Willoughby Ave. to Palmetto St., and on Palmetto St., Myrtle Ave. to Cypress Ave.	1/16/16	.....	352,511.25	35	116
		<b>Myrtle Avenue-Broadway Connection</b>					
	Terry & Trench Co., Inc.	Myrtle Ave., Broadway to Willoughby Ave. and private right of way between Broadway and Myrtle Ave.	7/18/13	1/18/14	110,411.50	100	.....

\*After structure is ready

Milliken Bros.....	Fallen Street Additional Tracks Steel for additional tracks, Nostrand Ave. to Buckman St.	3/30/14	1/ 5/15	8466,800.00	100	.....	100
Terry & Teneh Co.....	Erectors of above.....	9/16/14	9/16/15	469,871.50	100	.....	1
John Thatcher & Son.....	Construction of stations.....	3/23/15	*3 mos.	258,604.00	99	.....	13
McClintie-Marshall Co.....	Broadway Elevated Line Additional Tracks Steel for additional tracks, Havenmeyer St. to Myrtle Ave.	8/14/14	4/14/15	103,000.00	100	.....	.....
Terry & Teneh Co., Inc.....	Havenmeyer St. to Myrtle Ave.....	10/15/14	10/15/15	331,305.70	100	.....	7
Lewis F. Shoemaker & Co.....	Steel for additional tracks, Myrtle Ave. to Abersden St.	3/16/15	9/16/15	279,000.00	100	.....	.....
The Johnson-Gifford Co.....	Myrtle Ave. to Abersden St.....	9/10/15	9/10/16	400,441.70	97	.....	84
John Thatcher & Son.....	Construction of stations.....	9/ 7/15	*3 mos.	330,335.00	83	.....	80
1 Post & McCord, Inc.....	Jessie Avenue Elevated Extension Crescent St. to Myrtle Ave.....	3/18/15	1/18/16	734,340.00	95.3	.....	.....
2 Canons Bros. Co.....	Myrtle Ave. to Cliffside Ave.....	.....	.....	736,166.40	47	.....	96
F. J. Carlin Const. Co.....	Construction of 13 stations.....	.....	.....	260,700.00	24	.....	73
Lewis H. Woods.....	Track installation.....	7/ 8/16	.....	143,584.50	17	.....	141
Charles A. Myers Contracting Co..	Fresh Pond Road Yard — Installation of Tracks Grading, tracklaying, etc.....	10/ 8/15	12/ 8/15	17,123.43	100	.....	7
American Bridge Co.....	Steel for Third-tracking and Other Improvements Steel for Fulton St. Coney Island Terminal, East New York Yard and Brighton Beach Line	11/13/15	5/13/17	2,274,700.00	46.3	.....	.....
Crenshaw Eng. and Const. Co., Inc.	East New York Yard and Additional Tracks Construction of East New York additional tracks and reconstruction of yard	2/ 2/16	.....	1,237,239.91	16.7	.....	114

## EQUIPMENT

Line	Work	Contractor	Bid
Liberty Ave.....	Track-laying.....	Empire Construction Co.....	\$115,987.65
Leatheran Cemetery.....	Installing third-rail.....	Thomas Crimmins Con. Co.....	232,000.00
Myrtle Ave. Connection.....	Furnishing rails.....	Bedblisham Steel Products Co.....	144,653.00
Fourth Ave.....	Furnishing contact rails.....	Bedblisham Steel Products Co.....	\$36.40 to \$39.40
For elevated third-tracks.....	Furnishing contact rails.....	Maryland Steel Co.....	\$ 36.40 to \$39.40
For elevated third-tracks.....	Furnishing contact rails.....		per ton
			per ton

\* After structure is ready.



## MISCELLANEOUS CITY CONTRACTS

## Special Work for Fourth Avenue Subway

Ramapo Iron Works.....	Portions 2, 9, 10 and 11.....	\$7,637.00
Indianapolis Switch and Frog Co.....	Portions 4, 7 and 8.....	3,867.60
Pennsylvania Steel Co.....	Portions 5, 6, 12, 13, 14, 15 and 16.....	37,436.50

## Track Materials for Fourth Avenue Subway (Order No. 1)

Bethlehem Steel Products Co.....	Open hearth rails.....	Mar. 27, 1914	127,108.00
Manganese Steel Rail Co.....	Manganese rails.....	Mar. 27, 1914	43,180.52
The Rail Joint Co.....	Splice bars.....	Mar. 27, 1914	19,035.00
Eastern Malleable Iron Co., Inc.....	End inclines.....	Mar. 27, 1914	1,032.00
Eastern Malleable Iron Co., Inc.....	Rail bolsters.....	April 17, 1914	1,524.50
American Brake Shoe and Foundry Co.....	Adjustable separators.....	Mar. 31, 1914	1,823.50
American Brake Shoe and Foundry Co.....	Washers.....	Mar. 27, 1914	1,488.40
Lackawanna Steel Co.....	Cut track spikes.....	April 4, 1914	3,037.52
American Iron and Steel Mfg. Co.....	Screw spikes.....	Mar. 31, 1914	2,764.42
American Iron and Steel Mfg. Co.....	Bolts and nuts.....	Mar. 31, 1914	6,572.42
The Crescent Co., Inc.....	Anti-creepers.....	April 4, 1914	2,728.00
Herbert W. Lockwood.....	The plates, Type A.....	May 19, 1914	13,813.00
Herbert W. Lockwood.....	The plates, Type B.....	May 19, 1914	1,324.00
Elyria Iron and Steel Co.....	The plates, Type C.....	July 10, 1914	3,850.00
Elyria Iron and Steel Co.....	The plates, Type E.....	July 10, 1914	2,723.00
Ramapo Iron Works.....	The plates, Type D.....	May 28, 1914	1,840.80
Robert A. Kausbey Co.....	Felt pads.....	May 19, 1914	77,450.00
United Hudson Stone Co.....	Ballast.....	Mar. 27, 1914	96,540.00
J. H. Burton.....	Ties and timber.....	Sept. 10, 1914	110.25
National Lock Washer Co.....	Nut Locks.....	Mar. 27, 1914	700.00
American Brake Shoe and Foundry Co.....	Cast-iron separators.....	Mar. 5, 1915	

## Track Materials for New Utrecht Avenue Elevated Line (Order No. 2)

The Vulcan Rail and Cast Co.....	Hand rails.....	July 20, 1915	15,608.40
Bethlehem Steel Products Co.....	Open hearth rails.....	July 21, 1915	78,949.00
The Rail Joint Co.....	Track rail splice bars.....	July 21, 1915	11,474.45
Ramapo Iron Works.....	Special work.....	July 21, 1915	19,740.00
Manganese Steel Rail Co.....	Rolled manganese rail.....	July 19, 1915	16,337.71
Lackawanna Steel Co.....	Cut track spikes.....	July 19, 1915	3,268.28
Central Foundry Co.....	Cast iron separators.....	July 21, 1915	2,268.70
Lackawanna Steel Co.....	The plates, Type "A".....	July 19, 1915	14,100.00
Dillworth, Porter & Co., Ltd.....	The plates, Type "B".....	Aug. 5, 1915	745.00
Elyria Iron and Steel Co.....	The plates, Type "C".....	Aug. 31, 1915	558.98
Elyria Iron and Steel Co.....	The plates, Type "W".....	July 21, 1915	164.00
Ramapo Iron Works.....	The plates, Type "D".....	July 21, 1915	1,600.00
Ramapo Iron Works.....	Screw spikes and lag screws.....	July 22, 1915	687.00
J. H. Burton & Co.....	Ties and timber.....	Aug. 26, 1915	134,804.87

## MISCELLANEOUS CITY CONTRACTS — Concluded

Foran Foundry and Mfg. Co.	Aug. 6, 1915	5,251.69
Ramapo Iron Works	July 21, 1915	45.00
The Crespeck Co.	July 19, 1915	2,871.30
American Iron and Steel Mfg. Co.	July 22, 1915	20,675.11
Ramapo Iron Works	July 31, 1915	19,740.00
Malleable iron.		
Nut locks		
Anti-crespers		
Bolts and nuts		
Special Work, Portions 35, 36, 37, 38 and 39.		
<b>Track Materials for Dual System (Order No. 2)</b>		
Bethlehem Steel Products Co.	Aug. 31, 1915	1,202,126.50
The Rail Joint Co.	Sept. 9, 1915	269,104.60
Crespeck Co., Inc.	Sept. 1, 1915	187,104.00
Robert F. Horsey	Aug. 31, 1915	35,174.70
The Upper Hudson Stone Co.	Sept. 2, 1915	228,735.00
The Haverstraw Crushed Stone Co.	Sept. 19, 1915	228,010.00
Upper Hudson Stone Co.	Oct. 19, 1915	26,328.00
J. H. Burton & Co.	Oct. 21, 1915	77,374.00
Long Leaf Pine Co., Inc.	Oct. 15, 1915	1,273,843.93
Q. & C. Co.	Oct. 15, 1915	100,369.43
Herbert W. Lockwood	Oct. 5, 1915	9,057.73
L. D. Rockwell	Oct. 20, 1915	123,875.00
L. D. Rockwell	Oct. 4, 1915	13,267.50
Herbert W. Lockwood	Oct. 6, 1915	8,140.26
Ramapo Iron Works	Oct. 20, 1915	8,239.00
Herbert W. Lockwood	Oct. 7, 1915	2,901.35
Ramapo Iron Works	Oct. 20, 1915	17,139.25
American Brake Shoe and Foundry Co.	Oct. 1, 1915	10,633.57
Ramapo Iron Works	Oct. 1, 1915	54,950.00
Foran Foundry and Mfg. Co.	Oct. 6, 1915	36,115.07
American Iron and Steel Mfg. Co.	Oct. 8, 1915	23,741.43
Herbert W. Lockwood	Oct. 20, 1915	34,333.00
Oliver Iron and Steel Co.	Oct. 15, 1915	117,910.73
<b>Track Materials for Dual System (Order No. 4)</b>		
William Wharton, Jr., & Co.	Oct. 7, 1915	41,907.00
Special work		
<b>Track Materials for Dual System (Order No. 5)</b>		
Pennsylvania Steel Co.	Dec. 6, 1915	23,950.00
Special work		
<b>Track Materials for Dual System (Order No. 6)</b>		
Ramapo Iron Works	Jan. 27, 1916	46,195.00
Special work		

Track Materials for Dual System (Order No. 7)		
Ramapo Iron Works.....	Special work.....	June 22, 1916
		85,889.00
Track Materials for Dual System (Order No. 8)		
Pennsylvania Steel Co.....	Special work.....	Sept. 11, 1916
		65,316.00
Track Materials for Dual System (Order No. 9)		
Ramapo Iron Works.....	Special work.....	Oct. 25, 1916
		29,889.00
Track Materials for Dual System (Order No. 10)		
Ramapo Iron Works.....	Special work.....	Oct. 25, 1916
		11,427.00

Track Division

## COMPANY CONTRACTS

The two operating companies pay for the cars and other equipment of the new lines under the Dual System Agreements. They also meet the total cost of construction upon company-owned lines, including extension, third-tracking and other improvements. While such contracts are awarded by the companies, they must when in excess of \$100,000 be approved by the Commission. The two companies have expended to date approximately \$35,000,000, exclusive of real estate and overhead expenses, in the prosecution of this company work.

## AGREEMENTS IN REFERENCE TO THE CONNECTION OF THE FIRST SUBWAY AND THE LEXINGTON AVENUE SUBWAY

Early in November the Commission approved two agreements to which the City, through the Commission, and the Interborough Rapid Transit Company were parties. The New York Central Railroad Company was also a party to one of the agreements. They provided for the completion of the connection between the West Farms branch of the First Subway and the Jerome Avenue branch of the Lexington Avenue subway at 149th street and Mott avenue, and for the lengthening of the platforms of the Mott Avenue station of the First Subway some 230 feet beyond its present easterly end. The New York Central Railroad Company was a party to the latter agreement inasmuch as a passageway had been provided between the 149th Street station of the Lexington Avenue subway and the Mott Avenue station of the First Subway and the station which the railroad company proposed to build at 149th street and Park avenue as a part of its so-called Bronx improvement. The railroad company asked that this passageway be built to permit of the convenient interchange of passengers between the several stations. The New York Central Company will construct the passageway east to Spencer place and is also to do certain construction work which the City would otherwise do for the platform extensions. With these exceptions all of the work is to be done by the Interborough Rapid Transit Company, the cost of the connection between the two subway lines being paid for by the Interborough Rapid Transit Company as a part of its contribution under Contract No. 3 while the extension of the

platforms and other work to the east of Mott Avenue station is to be paid for by the City as an extra under Contract No. 1.

The approximate cost of the first item is about \$110,000, and of the second about \$350,000. About 100 feet of the westerly portion of the Mott Avenue station platform of the First Subway is to be removed to permit the connection between the subways to be made. A part of the connection has already been constructed in connection with the building of the Lexington Avenue subway. The platform lengthening at the Mott Avenue station will provide for ten-car trains.

The New York Central Railroad Company proposes to utilize its new Bronx station for the handling of a very considerable part of its suburban traffic.

#### BATTERY TUNNEL INTACT

Early in the year engineers of the Commission made careful inspections of the two tubes of the East River tunnel of the First Subway from the Battery to Joralemon street, Brooklyn. These inspections showed neither settlement, lateral movement nor deterioration. The investigations, in fact, showed that leakage of the tunnels had decreased. The first subway tunnel was completed in 1908 and has been in constant use since.

#### TUNNEL HEADINGS JOINED

At the close of the year construction work was under way on all of the four tunnels being built by the Commission underneath the East river to form connections between the new rapid transit lines in Manhattan and in Brooklyn and Queens. The final blast, "holing through" the headings of the south tube of the Old Slip-Clark Street tunnel underneath the East river, was fired on the morning of December 19. When measurements were taken through the opening it was found that the two headings outward bound from each side of the river had met almost in the center of the river with a deviation from horizontal and perpendicular of less than an inch. The headings of the north tube met on November 28, the first to be joined of any of the four tunnels under construction. There was also a deviation of less than an inch in the meeting of the north tube.

Rapid progress was made toward the end in connecting up the four headings inasmuch as they met in a reef of solid rock near the center of the river. The Old Slip-Clark Street tunnel is for operation by the Interborough Rapid Transit Company as a part of the Park Place, Beekman and William Street branch of the Seventh Avenue subway and will connect the Seventh Avenue line with the First Subway in Brooklyn.

As is customary in tunnel building there was a celebration in connection with the joining of the north tube. As soon as a drill had been shoved through, making the first connection between the two headings, an American flag was driven through from one heading to the other. Following the firing of the last blast in the north tube there were addresses by Commissioner Travis H. Whitney and George H. Flinn, President of the Flinn-O'Rourke Company, Inc., the contractor for the tunnel work.

The building of the Old Slip-Clark Street tunnel has established a new record for speed in construction of tunnels under the East river and also has established another and especially noteworthy record in the fact that the work had been prosecuted with a minimum of casualties both as to accidents and as to cases of the dreaded "bends" or caisson disease.

Practically all previous tunnel work in the vicinity of New York City has been marked by the large number of cases of "bends" and a painful score of fatalities from this disease. It was determined by the Commission when plans were prepared for the four new East River tunnels that especial pains should be taken to prevent as far as possible the occurrence of this disease, which results from a too rapid decompression for the workmen as they leave the air pressure under which tunnels are constructed. Sometimes this air pressure is very high and the men work in very short shifts. The greatest of care must be exercised in removing them from the locks and caissons. Occasionally even with the utmost care the tunnel workers, who are commonly known as "sand hogs," are afflicted with "bends." Physicians were employed by the Commission and by the contractor, and especial rules were drafted to control the men and to guide their activities, with the result that there were only a little more than 200 cases of caisson disease on the Old Slip-Clark Street work and but one of these resulted fatally.

It is stated by the physicians and the engineers, both for the contractor and the City, among whom there has been the greatest coöperation in this work, that had this single case been discovered in sufficient time the workingman could have been treated and the fatality probably prevented.

#### FIRST FINANCIAL RETURN FROM DUAL SYSTEM OPERATION

The City of New York was in receipt of its first financial return from the operation of new rapid transit lines under the Dual System when the Interborough Rapid Transit Company on August 29 paid to the Comptroller of The City of New York, \$8,584.73 as rental under the certificate for the third-tracks on the lines of the Manhattan elevated system. The certificate provided that the company pay to the City two per cent of the increase in receipts from stations served by express trains. The payment of August 29 covered the initial operation on the third tracks from January 17, 1916, to July 1, 1916, this rental representing clear gain to the City, in that no City money was invested in the third-tracking work and that there were therefore no interest or sinking fund charges to be met.

The payment above referred to covered only receipts from stations served by express trains on the Second, Third and Ninth Avenue elevated. Following the receipt of the check the Commission wrote the Interborough Rapid Transit Company, stating its belief that certain of the stations on the Sixth Avenue line served by express trains originating on the Ninth Avenue line should also be included within the list of stations from which rental should be paid to the City. President T. P. Shonts, of the Interborough Company, in reply contended that the stations on Sixth avenue were not properly to be considered as stations served by express trains. The Commission, however, plans at an early date to obtain a determination as to whether the Sixth Avenue stations served by express trains, as mentioned, should be included in the list of stations from which rental is expected by the City.

#### "BLOWOUT" IN UNDER-RIVER TUNNEL

Two workmen were killed, one was slightly injured, and one had a marvelous escape from injury on February 19 as a result of a "blowout" in the north tube of the Whitehall-Montague

Street tunnel which is being constructed under the East river and will constitute a connection between the Broadway subway in Manhattan and the Fourth Avenue subway in Brooklyn.

The remarkable feature of the accident was that three of the workmen, including the two men who were killed, were blown up through thirty feet of muck intervening between the top of the tunnel shield and the bottom of the river to the surface of the water. One of the three was practically uninjured.

A similar accident occurred during the building of the Battery tunnel of the First Subway, when one workman, in attempting to stop a compressed air leak, was blown through the river bottom and came to the surface of the river and was rescued uninjured.

The Whitehall-Montague Street tunnel is being constructed by the shield method under compressed air. The "blowout" occurred on the Brooklyn side of the river near the foot of Montague street and at a point about opposite the pier-head line. An air pressure of 24 pounds to the square inch was being maintained in the tunnel. The shield had just been moved forward about 26 inches to allow for the placing of one of the cast-iron rings, which form the permanent lining of the tunnel. The compressed air found a weak spot in the roof of the working chamber and blew a hole up through the river bed. Four of the workmen employed by the Flinn-O'Rourke Company, Inc., the contractor who is building the tunnel, were within the shield and exposed to the danger of being sucked into the vortex. Two of them were miners and two helpers. About twenty other workmen were in the tunnel back of the shield, and two Commission employees, one of them an engineer, were in the air lock being transferred from the shield into the tunnel. All these escaped injury.

Of the four men at work in the shield, one, Marshall Mabey, was shot up through the silt and water to the surface of the river. He was uninjured and as he reached the surface struck out and swam to a nearby pier, whence he was pulled ashore. Frank Driver, a miner's helper, and another employe named McCarthy were also catapulted up into the river. Driver died a few minutes later and McCarthy's body was found the next day. A third employe managed to grasp the side of the shield as the outrush of air began and pulled himself to shelter, suffering only a slight injury to his ankle.

Immediately after the accident the air pressure in the tunnel was lowered to about 15 pounds in order to prevent an increase in the size of the "blow" hole, and the contractor took steps to cover the hole with a blanket of clay — a practice that is followed in tunnel work to prevent and to cure "blowouts." Work was halted for several days to permit of the deposit of the clay blanket and also to allow for the pumping out of the tunnel which had become partially filled with water.

### VENTILATING GRATINGS

The much discussed question of the ventilation of the new subways, in reference to which many conferences were held during the years 1915 and 1916, was settled in so far as it related to the special conditions along that portion of Broadway between 34th and 42d streets.

On June 18, 1915, the Commission adopted a resolution directing the then Chief Engineer of the Commission, Mr. Alfred Craven, to request the Interborough Rapid Transit Company and the New York Municipal Railway Corporation to designate their consulting engineers to act with the Chief Engineer of the Commission as a board to report with recommendations upon the subject of ventilation for the subways of the Dual System.

On March 2, 1916, a report signed by William Barclay Parsons and S. C. F. Deyo, engineers representing the Interborough Rapid Transit Company, and J. Vipond Davies and Lewis B. Stillwell, representing the New York Municipal Railway Corporation, dealing with the whole subject of subway ventilation, was received. This report stated that no mechanical means could generally be employed for subway ventilation, such as fans, blowers, etc., without incurring prohibitive cost and causing annoyance to the general public. The board believed the natural method of ventilation through gratings in the subway roof and by the piston action of trains the most effective method that could be practically applied. In subways constructed with fairly continuous grating openings, natural ventilation was held to be substantially adequate.

The report also stated that, despite theories held by many persons, the air in the First Subway was well within the standards

set by the principles of good ventilation. While some attention might be given to improvement of details, generally the natural method was unquestionably the most suitable and efficient, and the recommendation was made that the plans adopted by the Commission and employed in the construction of the new subways be adhered to, with perhaps a few changes as to detail.

On March 16 the whole question was referred to Commissioner Hodge for consideration and report. On May 25 Commissioner Hodge rendered an opinion with certain recommendations in the matter of ventilating gratings for the Broadway subway between 29th and 35th streets and between 39th and 46th streets. Much public opposition had developed to the placing of ventilating gratings for underground lines in the sidewalks.

Commissioner Hodge expressed the opinion that by introducing fans and a ventilating duct near 42d street and similar fans and another duct near 31st street, the portions of the subway between 39th street and 46th street could be properly ventilated without sidewalk gratings. He found that to accomplish this purpose it would be necessary to place gratings in Greeley square between 32d and 33d streets near an island of safety between Sixth avenue and Broadway north of 33d street, in Herald square between 34th and 35th streets, and in islands of safety in Long Acre square between 43d and 44th streets and between 45th and 46th streets.

At the same time he recommended as the safest course the preservation of the ventilating chambers contemplated in the subway plan between 29th and 32d streets, so that in case the ducts did not give satisfactory ventilation gratings could be restored over the vent chambers and also over openings above the station between 39th and 42d streets. He held that the relief which would be gained by these changes would be of sufficient moment to make it worth while to expend the additional sums necessary to make them, and if the plan of forced ventilation by fans should not prove effective it would be readily possible to adhere to the original subway plans without having gone to any considerable expense. His recommendations were approved.

#### EXTENSION OF THE NINTH AVENUE ELEVATED LINE

An agreement between the Interborough Rapid Transit Company and the New York Central Railroad Company, by which

the Interborough acquired the right to use the present bridge of the New York Central Railroad Company across the Harlem river near 157th street, commonly known as the Putnam Division Bridge, was approved by the Commission on January 20.

The agreement gives the Interborough the right to the bridge for the Eighth Avenue and 162d Street connection, authorized by the Dual System contracts. This is an extension of the Sixth and Ninth Avenue elevated railroad over the bridge and through 162d street to a connection with the Jerome Avenue branch of the Lexington Avenue subway at River avenue and 162d street. Under the terms of the agreement the New York Central Company is to construct a new station on the Bronx side of the Harlem river at about Sedgwick avenue and 162d street, to be in future the southern terminal station of the Putnam division of the New York Central Railroad. Provision was made for the abandonment of the present station of the Putnam division at 155th street.

The agreement provided for a lease of the bridge and the right of way between Sedgwick avenue and 155th street for a term of 85 years, dating from June 1, 1917. The Interborough paid the New York Central Company the sum of \$175,000 outright for the purchase contained in the agreement, and in addition agreed to pay the New York Central Company \$11,250 a year, being the interest at the rate of four and one-half per cent per annum on the sum of \$250,000, which was set as the value of the line across the Putnam bridge.

In addition, the Interborough Company agreed also to meet the cost of taxes, assessments and other fees and part of the cost of the maintenance of the new station to be built by the New York Central and to be jointly used by the two companies.

#### CHANGES IN STATION DESIGNATIONS

Three changes were made in names of stations for the new rapid transit lines during the year. The name "Burnside Avenue" which had been selected for one of the stations on the Jerome Avenue extension of the Lexington Avenue line was changed to "New York University Station." The "Gold Street" station on the Fourth Avenue subway was changed on petition of a number of residents of Brooklyn to "Myrtle Avenue." The Gold

Street station was originally entitled "Myrtle Avenue," but it was changed because it was feared that it might be confused with the Myrtle Avenue station on one of the Brooklyn elevated railroads. Myrtle avenue, it was pointed out by the petitioners, is a business street and is much better known than Gold street. The Commission acquiesced in this view and the name was changed.

On petition of a number of residents of The Bronx the Commission altered the name of the "180th Street" station on the White Plains Road line to "180th Street-Morris Park Avenue." The latter change was made in view of the fact that the Bronx Park terminal of the West Farms branch of the First Subway is commonly known as the "180th Street" station and it was feared that confusion would be inevitable if a change was not made.

#### FULTON STREET WIDENING

On June 15 the Commission sent to the Board of Estimate and Apportionment a letter stating that the cost of the proposed widening of Fulton street from Ashland place to the extension of Flatbush avenue in Brooklyn would amount to hundreds of thousands of dollars. The value of the real estate to be taken, it was pointed out, would be in excess of \$325,000.

While the title to the property is held by the City — it having been secured for work in connection with the construction of the Fourth Avenue subway — it is charged against the rapid transit account. Hence a refund would need to be made to that account if the property were taken by the City for other purposes.

The widening of Fulton street would also involve the relocation of elevated railroad columns which would cost about \$40,000. The Chief Engineer of the Commission reported that he did not believe the plan practicable. A change in the building line of the street might also seriously affect the structure of the Fourth Avenue subway which was built with a view to retaining the present width of the street. The letter to the Board of Estimate was sent in response to a series of questions propounded by that body covering various aspects of the matter.

#### NEW MEZZANINE PROPOSED

In the effort to relieve in some measure the conditions of overcrowding at the Grand Central station of the First Subway and

to provide for an easier circulation of traffic at the station, the Commission in conjunction with the Interborough Rapid Transit Company early in the year worked out a plan for a mezzanine across the express tracks, to be constructed in connection with a new stairway. The Commission approved the plan and submitted it to the Board of Estimate with a request for the appropriation of the necessary \$6,000 for its construction as an extra under Contract No. 1.

It was deemed advisable to construct the work with a view to having the mezzanine and accompanying stairway in place by the beginning of the winter rush of traffic. The Board of Estimate, however, refused to approve the appropriation on the ground that the present conditions of crowding at the Grand Central station would, under the new system of operation contemplated when the east and west trunk line subways are completed, be largely eliminated, and that the proposed appropriation would scarcely be warranted.

In reply, the Commission stated that \$6,000 was a small sum to pay for an appreciable measure of relief inasmuch as it was expected that the winter of 1916 would produce the greatest traffic ever seen in the First Subway. The Board of Estimate, however, declined to accede to the Commission's views, and when the season had so far advanced as to make it impossible to install the mezzanine and stairway to be of use during the winter the matter was dropped.

#### ESTIMATED ADDITIONAL COST OF DUAL SUBWAY SYSTEM

On July 6 Commissioner Travis H. Whitney and LeRoy T. Harkness, Chief of Rapid Transit, submitted to the Commission a report indicating that the construction cost of the Dual System of rapid transit would be nearly \$22,000,000 in advance of the estimates made for the cost of the system during the negotiations which led up to the signing of the Dual Contracts. The total estimated additional cost which they found under both Contracts Nos. 3 and 4 was \$21,834,387.70. The appropriations made in March, 1913, indicated a cost of municipal lines to be operated by the Interborough of \$121,602,000, of which the company was to contribute \$58,000,000. The estimate to complete these lines,

made by Commissioner Whitney and Mr. Harkness and dated as of May 1, 1916, was \$125,902,000.

Their report points out that the actual construction work on the lines for operation by the Interborough will be done for \$1,309,000 less than the original estimates. Real estate, if resale of surplus property can be had as expected, will show a balance of a little more than half a million dollars, but interest during construction will run \$6,250,000 in advance of the original estimate. The net effect, therefore, is a requirement for \$4,350,000 additional for purposes of Contract No. 3, the contract with the Interborough.

In the cost of Contract No. 4, with the New York Municipal Railway Corporation, the appropriations of March, 1913, indicated the cost for municipal lines to be operated by that company to be \$114,002,000, of which the company was to contribute \$13,500,000. The estimates as of May 1, 1916, indicated a cost of a little over \$131,500,000 for these lines. Construction work under Contract No. 4, it was shown, would be nearly \$8,300,000 in excess of original estimates, due in large part to advance in prices of materials and labor. The interest item in Contract No. 4 runs \$4,109,000 ahead of the original estimate, and real estate \$5,128,000.

It was pointed out that the net increase in the cost of construction work is only \$7,000,000 on the original estimate of over \$202,000,000 for construction. In other words, the increased cost so far as construction work proper is concerned is less than 3½ per cent. The text of this report, together with accompanying tables of estimates and costs, will be found in the volume of appendices.

#### DOCK PLANS APPROVED

Early in March the Commission approved plans submitted by the New York Dock Company, through Dock Commissioner R. A. C. Smith, for the construction of large modern piers at Joralemon street and Montague street, Brooklyn. Approval by the Commission was necessary because the piers will be constructed over the First Subway at Joralemon street and over the New York Municipal Railway Corporation subway at Montague street, and it was important that the work of constructing the docks should not interfere in any way with the tunnels.

The piers, representing increased commercial advantages for the Brooklyn waterfront, at the same time give protection to the subways and obviate the construction of permanent concrete blankets over the tubes, which would cost more than \$100,000 each. The negotiations leading up to the agreement, of which the construction of the piers was the outcome, lasted for more than a year.

The City of New York, through the Commissioners of the Sinking Fund, took formal action on April 13 authorizing the transfer of the property at the foot of Joralemon and Montague streets from the jurisdiction of the Commission to that of the Department of Docks and Ferries. As a result of this action, the rapid transit funds were reimbursed to the extent of \$21,250 for the rights transferred at the foot of Joralemon street and \$81,250 for the rights transferred at the foot of Montague street.

#### CONDEMNATION PROCEEDINGS IN CONNECTION WITH THE CULVER RAPID TRANSIT RAILROAD

Early in June, negotiations for the acquisition of an easement having failed, the Commission instituted condemnation proceedings to acquire an easement for elevated railroad construction alongside 37th street, Brooklyn, from Tenth to Fifteenth avenue and thence across railroad property to Gravesend avenue. The easement desired was over the existing right of way of the New York Municipal Railway Corporation, one of the associated Brooklyn Rapid Transit companies, and title to the property rested with the Prospect Park and South Brooklyn Railroad Company, the official name of the Culver line.

The desired easement is to provide the right of way for the Culver Rapid Transit Railroad Elevated extension of the Fourth Avenue Subway system. Negotiations for the acquisition of the easement began in the Fall of 1915. When they had reached a certain point it became apparent that the real estate experts of the Commission and of the Brooklyn company could not agree in their estimates of the value of the property to be taken.

Experts for the Commission estimated the property value to be approximately \$50,000 while the company's experts set a figure of \$200,000. Thereupon the Commission adopted a new route,

No. 64, alongside the property of the railroad company, proposing to institute condemnation proceedings and to use such property in place of the easement over the value of which question had arisen.

Later, however, when it was found that title to 37th street, Brooklyn, which was involved in Route No. 64, had not been taken by the City, this plan was abandoned, and following conferences with the Brooklyn company it was decided to institute condemnation proceedings for the property originally sought and to vest title at once.

#### ACQUISITION OF REAL ESTATE FOR RAPID TRANSIT PURPOSES

On January 24, 1916, the Commission acquired title by private purchase to permanent and temporary easements through land under water, filled-in land and upland and beneath certain warehouses thereon between Furman street and the East river, opposite the foot of Clark street, Borough of Brooklyn. The consideration was \$300,000.

By agreement dated January 31, 1916, the Commission secured a permanent easement fifty feet wide between Atlantic avenue and Hanson place underneath the Long Island Railroad terminal, Borough of Brooklyn. The consideration for the easement was \$200,000, and there was also embodied in the agreement an obligation on the railroad company to construct a slab of steel and concrete over the location of the permanent easement to support the terminal structure above at a cost not to exceed \$300,000.

On May 9, 1916, in condemnation proceedings, title was acquired to sixteen parcels of land for the purposes of the Livonia Avenue extension of the Eastern Parkway route, between the corner of Buffalo avenue and Eastern parkway and East New York avenue opposite East 98th street, Borough of Brooklyn. The awards have not yet been fixed.

On June 5, 1916, title was acquired to three lots with three-story brick buildings thereon in one ownership at the south-westerly corner of Fulton and St. Felix streets, Borough of Brooklyn. The awards have not yet been fixed.

On June 29, 1916, in condemnation proceedings, temporary

and permanent easements were acquired beneath the Citizen building at the corner of Adams and Fulton streets, Borough of Brooklyn. The award has not yet been fixed.

By deed dated June 30, 1916, a double-deck pier, together with land under water for a considerable distance on either side thereof, was acquired in fee for the purposes of the 14th Street-Eastern route at the foot of North 7th street, Borough of Brooklyn. The consideration paid was \$200,000.

On July 28, 1916, a permanent easement was acquired in condemnation proceedings underneath property at the southwesterly corner of Fulton and Clark streets, Borough of Brooklyn. The award has not yet been fixed.

On July 31, 1916, in condemnation proceedings, fee was taken to a number of parcels of railroad property in the block bounded by Tenth and Fort Hamilton avenues and 37th and 38th streets, Borough of Brooklyn, and easements were acquired from a point in said block to Gravesend avenue, the whole covering a stretch of the Culver line about  $\frac{4}{5}$  of a mile in length. The awards have not yet been fixed.

On October 18, 1916, fee was acquired in condemnation proceedings to a small parcel at the northeasterly corner of Livonia avenue and East 98th street, Borough of Brooklyn. The award has not yet been fixed.

On October 18, 1916, fee was acquired to a parcel at the southwesterly corner of Bushwick and Metropolitan avenues, Borough of Brooklyn, on which was located a three-story wooden flat house.

On December 8, 1916, fee was acquired by purchase to a site for a storage yard of sufficient capacity for 580 subway cars, east of White Plains road and north of 239th street, Borough of The Bronx. The agreed consideration was \$173,000.

On December 28, 1916, an agreement was delivered providing for the purchase of the block bounded by 147th and 148th streets and Lenox and Seventh avenue, Borough of Manhattan, for the purpose of shop yards for subway cars. The agreed consideration was \$275,000. This block is 750 feet long between avenues and 200 feet wide between streets, having an area of about 150,000 square feet.

Many easements for subway entrances in the Boroughs of Manhattan, The Bronx, Queens and Brooklyn were secured.

Wherever property was not in physical possession of the contractors for construction purposes effort was made to secure an income from temporary rentals thereof on a monthly basis with provision for its vacation upon short notice. From such rentals and from the sale of a few small buildings to wreckers, the Commission received over \$37,000.

#### OTHER MATTERS

Nearly one hundred acquisitions by the Interborough Rapid Transit Company, the New York Municipal Railway Corporation and the Long Island Railroad Company for rapid transit or grade crossing elimination purposes were passed upon, and in addition thereto thousands of items of expenditures by the first two mentioned companies for real estate, upkeep and easements of light, air and access for elevated railroads were checked.

## CHAPTER III

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### RAPID TRANSIT CONSTRUCTION

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Less than four years have elapsed since the execution of the Dual System Contracts on March 19, 1913, yet at the close of the year 1916 all save six of the 87 contract sections were let and much of the work was approaching completion. Several of the new lines are already in operation. The Dual System work is now entering the final stage. While the year 1915 represented the high-water mark in the number and value of contracts awarded, nevertheless the work in progress in 1916 was on a scale more extensive than in any previous year since the signing of the Dual Contracts.

At the end of 1915 the 14th Street-Eastern subway was the only line remaining not wholly or partially under contract. During 1916 all save one of the contract sections were let for that line.

The history of the Dual System and Dual System routes has been outlined in previous reports. The First Subway, the success of which as a rapid transit line has resulted in the construction of many new underground routes, was begun in 1900 and opened for operation in October, 1904. The Dual System, of which the First Subway is a part, contains lines for operation by the Interborough Rapid Transit Company and lines for operation by the New York Municipal Railway Corporation.

The system combines extensions of and additions to the present subway and elevated lines together with certain new routes to be constructed to serve the various boroughs of the City. These lines are divided into two groups, namely, City-owned lines and company-owned lines, and each group is subdivided into lines for operation by the Interborough and lines for operation by the New York Municipal Railway Corporation.

## CITY-OWNED LINES

For Operation by the Interborough Rapid Transit Company

1. *East Trunk Line in Manhattan.*— An extension is made of Contract No. 1 subway from about 40th street and Park avenue, to and under 42d street, Lexington avenue, Harlem river and Park avenue, to a point near 135th street, where it divides into two branches, known as the Pelham Bay Park extension and the Jerome Avenue extension, respectively. The subway at Lexington avenue, in connection with Contract No. 1 subway south of 42d street, forms the east trunk line in Manhattan.

2. *The Pelham Bay Park Extension.*— This passes under Park avenue, East 138th street, Southern boulevard and Whitlock avenue to a point near Aldus street, where it emerges onto an elevated structure which extends over Whitlock avenue and Westchester avenue to Pelham Bay park.

3. *The Jerome Avenue Extension.*— This extends under Mott avenue and Franz Sigel park to about 157th street and River avenue, where it emerges onto an elevated structure which is built over River and Jerome avenues to Woodlawn cemetery.

4. *White Plains Road Extension.*— This line is an extension of the elevated structure of Contract No. 1 from about 179th street and Boston road to and over White Plains road to 241st street.

5. *The West Trunk Line in Manhattan.*— An extension is made from Contract No. 1 subway from about 44th street and Broadway, down Seventh avenue, Varick and Greenwich streets to a connection with Contract No. 1 subway at the Battery. This extension, in connection with the subway north of 44th street, forms the west trunk line in Manhattan.

6. *The Park Place, William and Clark Street Subway.*— This subway is a connection from the west trunk line near Park place to Contract No. 2 subway in Brooklyn at Borough Hall, via Park place, William, Clark and Fulton streets.

7. *The Eastern Parkway Line and Extensions.*— This is an extension from the present terminus of Contract No. 2 subway at Atlantic and Flatbush avenues under Flatbush avenue and Eastern parkway to Buffalo avenue, where it emerges onto an elevated line which extends thence over East 98th street and

Livonia avenue to New Lots avenue. A branch of this line extends under Nostrand avenue from Eastern parkway to Flatbush avenue.

8. *Queensboro Subway*.— This line begins at 42d street and Times square and extends under 42d street, the East river and East 4th street in Queens to about Hunters Point avenue and the Long Island Railroad yard, where it emerges onto an elevated structure. It extends thence over Davis street and Ely avenue to Queensboro bridge plaza, where it combines with a connection via Queensboro bridge from the Second Avenue Elevated line in Manhattan, and the two-track New York Municipal Railway Corporation tunnel from 60th street, Manhattan. At the plaza the line divides into two branches, one extending over Jackson avenue and Second (DeBevoise) avenue to Astoria, and the other via Queens boulevard, Greenpoint and Roosevelt avenues to Woodside and Corona.

FOR OPERATION BY THE NEW YORK MUNICIPAL RAILWAY  
CORPORATION

1. *The Centre Street Loop Subway*.— This subway connects the Brooklyn, Manhattan and Williamsburg bridges.

2. *The Broadway-59th Street Subway*.— This line extends along Whitehall street, Church street, Broadway, Seventh avenue, 59th and 60th streets to and under the East river to a connection with the Queensboro subway at the Queensboro bridge plaza. Provision is made in the contract for trackage rights for the New York Municipal Railway Corporation over the city-built lines in Queens to Astoria and Corona.

3. *The 14th Street-Eastern Line*.— This line extends from about Sixth avenue, Manhattan, under 14th street, the East river to North 7th street in Brooklyn, thence under North 7th street, Metropolitan, Bushwick and Johnson avenues to and over the Evergreen branch of the Long Island Railroad and over private property to a connection with the Brooklyn Rapid Transit lines at East New York.

4. *The Fourth Avenue Subway*.— This line extends from the Brooklyn end of the Manhattan bridge under Flatbush avenue extension, Ashland place and Fourth avenue to about 86th street.

5. *The Whitehall Street-East River-Montague Street Line.*— This is a connection from the Broadway-59th Street subway to the Fourth Avenue subway in Brooklyn, which extends under Whitehall street, the East river, Montague, Fulton and Willoughby streets to a connection with the Fourth Avenue subway at Flatbush avenue extension.

6. *The Coney Island Connections.*— At about 38th street and Fourth avenue a connection is made with two extensions to Coney Island; one is the Gravesend Avenue line extending via 38th street, 37th street and Gravesend avenue to Coney Island; and the other, the New Utrecht Avenue line, via 38th street and New Utrecht avenue, 86th street and Stillwell avenue, to Coney Island.

7. *The Nassau-Broad Street Line.*— This is a connection from the Centre Street Loop line to the Whitehall-Montague Street line and extends via Nassau and Broad streets to the latter line at a point under the East river.

8. *The Canal Street Connection.*— This is a connection from the Broadway-59th Street subway which extends under Canal street to and over the Manhattan bridge to the Fourth Avenue subway in Brooklyn.

9. *The Brighton Beach Connection.*— This is a connection from the Fourth Avenue subway to the Brighton Beach line via St. Felix street and Flatbush avenue.

#### COMPANY-OWNED LINES

For Operation by the Interborough Rapid Transit Company

1. *Second, Third and Ninth Avenue Elevated Lines.*— Reconstruction and third-tracking of these lines.

2. *Webster Avenue Elevated.*— This leaves the Third Avenue Elevated at about Fordham road and extends via Webster avenue and Gunhill road to a connection with the City-built White Plains Road line.

3. *The Eighth Avenue and 162d Street Connection.*— This is an extension of the Ninth Avenue Elevated across the Harlem river to and under 162d street on private property to a connection with the City-built Jerome Avenue line.

4. *The West Farms Subway Connection.*— This is a connection between the Third Avenue Elevated line at about 143d

street and the elevated extension of Contract No. 1 at about Brook and Westchester avenues.

5. *Queensboro Bridge Connection*.— This is a connection via the Queensboro bridge from the Second Avenue Elevated line in Manhattan to the City-built Queensboro subway in Queens.

FOR OPERATION BY THE NEW YORK MUNICIPAL RAILWAY  
CORPORATION

1. *Fulton Street, Broadway and Myrtle Avenue Lines*.— Reconstruction and third-tracking of these lines.

2. *East New York Reconstruction*.— Includes the reconstruction of the various lines and yards at the intersections of the Broadway and Fulton Street Elevated lines.

3. *Liberty Avenue Extension*.— This is an elevated structure extending from the City Line station to Lefferts avenue.

4. *Jamaica Avenue Extension*.— This is an extension from Cypress Hills station to Cliffside avenue.

5. *Coney Island Terminal*.— A two and four-track line connecting the various lines to be operated by the Brooklyn Rapid Transit system to Coney Island.

6. *Reconstruction of Brighton Beach Line*.— This includes provision for a connection with the City-built line (Route 12, Section 2-A) at Malbone street, and also various changes to increase the capacity of the line.

The character of the rapid transit construction embraced in these Dual Subway contracts varies materially, but in general is of such type as to require the service of responsible contractors of skill and experience. In order to get the benefit of the greatest competition available, the work was divided into contract sections estimated to cost roughly from \$1,000,000 to \$3,000,000 each.

The progress of work during the year 1916 under the supervision of the Engineering Department on these Dual Subway contracts is here presented in detail under the following subdivisions:

- (1) Work done in preparation of plans
- (2) Work designated as construction
- (3) Sewer work
- (4) Contracts for station finish, track installation, etc.

Other work than that covered by the foregoing subdivisions is also fully set forth under appropriate heads; namely, that in connection with third-tracking and extensions of the elevated railroads in Manhattan, The Bronx and in Brooklyn; equipment comprising installation of third rail, signal and speed control systems, power supply, cars, lighting and ventilation of stations and tunnels, and other features of equipment of the Dual System lines; track construction; inspection and testing of materials; subsurface structures; and that in connection with additions and improvements to the First Subway known as Contracts Nos. 1 and 2, such as additional entrances and exits, station elevators, ticket booths, ventilating outlets, etc.

**INTERBOROUGH RAPID TRANSIT DIVISION — CITY-OWNED LINES**  
**EAST TRUNK LINE IN MANHATTAN**

**Plans:**—The east trunk line in Manhattan is made up of the following contract sections:

Route No. 43, Sections Nos. 1 and 2

Route No. 5, Sections Nos. 7 to 15, incl.

Route No. 27

*Route No. 43, Section No. 1.*—This section, which includes most of the so-called “Diagonal Station,” is the connecting link between the new subway under Lexington avenue and the existing Manhattan-Bronx Rapid Transit Railroad under Park avenue. For convenience of construction this contract includes the reconstruction of a part of the Steinway tunnel underneath the “Diagonal Station”. Contractor, Rapid Transit Subway Construction Company. Date of contract, December 3, 1914. Contract period, 28 months. Summary of contractor’s bid, \$3,097,812.50.

About 30 per cent of the working drawings, which at the beginning of the year still remained to be issued, was completed during the year, and the balance of the shop drawings, about 40 per cent, was examined and approved. Changes in the ventilation shafts due to the widening of Park avenue necessitated a revision of some of the working drawings.

*Route No. 43, Section No. 2.*—This section includes that part of the diagonal connection between Park and Lexington

avenues which is located within and adjacent to the New York Central property at the northwest corner of 42d street and Lexington avenue. The main portion of the structure was designed and constructed by the New York Central Railroad Company, in accordance with the terms of an agreement dated March 30, 1915, and under the general supervision of the Chief Engineer. Contract drawings have been made for the portion of the structure to be built by the City, namely, the track floor, platforms, and the mezzanine floors. These drawings will practically serve without modification as working drawings.

*Route No. 5, Section No. 7.*—A four-track subway under Lexington avenue, extending from a point about 130 feet south of the center line of 43d street to a point about 55 feet north of the center line of 53d street. Contractor, Rapid Transit Subway Construction Company. Date of contract, August 7, 1915. Contract period, 31 months. Summary of contractor's bid, \$1,915,164.50.

All working drawings on this section and about 80 per cent of the shop drawings were completed prior to 1916. The balance of the shop drawings was approved during 1916. The occurrence of bad rock conditions at various points during the process of the work has, during the past year, necessitated revision of working drawings and the issuance of supplementary drawings.

*Route No. 5, Section No. 8.*—A four-track subway under Lexington avenue from 53d street to 67th street. Plans of section were completed prior to 1916. Contractor, Bradley Contracting Company. Contract time expired December 21, 1915. Summary of contractor's bid, \$3,369,484.20.

*Route No. 5, Section No. 9.*—A four-track subway extending under Lexington avenue from 67th street to 79th street. Plans of this section were completed prior to 1916. Contractor, Patrick McGovern & Co. Contract period has expired. Summary of contractor's bid, \$1,961,997.

*Route No. 5, Section No. 10.*—A four-track subway extending under Lexington avenue from 79th street to 93d street. All plans were issued prior to 1916. Contractor, Bradley Contracting Company. Estimated cost, \$3,253,072.80. This was materially reduced by change of plan, with a resultant reduction in cost of approximately \$743,348.90.

*Route No. 5, Section No. 11.*—A four-track subway under Lexington avenue from about 93d street to about 106th street. Contractor, Bradley Contracting Company. Date of contract, July 21, 1911. Contract period, 42 months, extended to November 21, 1915. Summary of contractor's bid, \$3,132,195.05. Contract completed November 21, 1915. Total cost of contract, \$2,768,575.78.

All the working drawings for this section were issued prior to 1916.

*Route No. 5, Section No. 12.*—A four-track subway under Lexington avenue extending from about 106th street to about 117th street. Contractor, Oscar Daniels Company. Date of contract, September 13, 1911. Contract period, 42 months. Summary of contractor's bid, \$2,825,740.74. Total cost of contract, \$2,639,476.60.

All the plans for this section were completed prior to 1916.

*Route No. 5, Section No. 13.*—This is a four-track subway under Lexington avenue from about 117th street to about 128th street. This section contains the 125th Street express station, which is the actual junction between the two branch lines in The Bronx. The contract was let to the Bradley Contracting Company on November 17, 1911, and later assigned to McMullen, Snare & Triest, Inc. Contract period, 42 months. Summary of contractor's bid, \$4,071,416.50.

All the working drawings for this section were issued prior to 1916.

*Route No. 5, Section No. 14.*—This is a four-track subway extending under Lexington avenue from about 129th street, under the Harlem river and Park avenue in the borough of The Bronx, to a point near 135th street, where it divides into two branches. The east branch extends in a northeasterly direction under Park avenue to a point near its intersection with Mott avenue, and the west branch extends northerly under private property and the tracks of the New York Central Railroad to a point under private property south of East 138th street. Contractor, Arthur McMullen & Hoff Co. Date of contract, July 23, 1912. Contract period, 40 months. Summary of contractor's bid, \$3,889,775.05.

As noted, the Harlem river crossing is included in this section.

The design and method of construction are similar to that followed by the Michigan Central Railroad for its crossing under the Detroit river. This design was chosen as a result of competitive bidding.

Plans were completed prior to 1916 except for some minor details.

*Route No. 5, Section No. 15.*—This section is composed of two branches. The east branch extends under Park avenue, private property and East 138th street to a point east of Alexander avenue. The west branch extends from a point under private property south of 138th street, northerly under private property and Mott avenue to and under Franz Sigel park, thence northwesterly under the park, private property and various intersecting streets to a point near 157th street and River avenue, where a connection is provided with the River and Jerome Avenue Elevated line, Route No. 16. Plans were completed prior to 1916. Contractor, Rodgers & Hagerty, Inc. Date of contract, November 17, 1911. Contract period, 42 months. Summary of contractor's bid, \$3,820,129.75.

*Duct Line Connecting Route No. 5 and Route No. 16.*—It was originally intended to return trains at a point north of 153d street by means of a loop under Franz Sigel park. Because of the future connection of this loop, the railroad duct line was deflected through 153d street and River avenue. Due to conditions along 153d street the cost of building this duct line would be excessive, and as the possibility of building the loop had become very remote it was decided to run the ducts through the structure to Walton avenue, thence through Walton avenue and 157th street to River avenue. This work consists of alteration in the duct bench from 153d street to Walton avenue; the building of a manhole connected to the structure at Walton avenue, and the running of a street duct line through Walton avenue and 157th street to River avenue, connecting to the duct line of the Jerome Avenue line. The plans have been completed, and the work for the restoration of the bench was given under supplementary agreement to the Empire Construction Co., contractor for the track installation, at a lump sum price of \$9,791.25. The contract for the street duct line was awarded to the T. H. Reynolds

Construction Co. Date of contract, August 14, 1916. Contract period, 2 months. Summary of contractor's bid, \$10,307.

All the plans for Route 5, Section 15, were completed prior to 1916, except the plans of the duct line and some other minor details which were completed this year.

*Route No. 27 and Extension of Platforms of Mott Avenue Station, Contract No. 1.*—Provision is made on Section 15 of Route No. 5 for a connection known as Route No. 27 from the First Subway in 149th street to the new subway in Mott avenue, so that trains may pass south from the First Subway from Bronx park to Manhattan via the new subway and vice versa. This was included in this section, taking the place of a loop originally provided under Franz Sigel park for the return of trains. That part of the connection with the First Subway which requires cutting into the walls of that structure was not included in this contract.

One part of Route No. 27 to be built consists of a crossing about eighty feet in length over the present Manhattan-Bronx Rapid Transit Railroad at 149th street and Gerard avenue, shallow-beam construction being substituted for the present arched roof.

The other part of Route No. 27 lies just west of Mott avenue on 149th street. It consists of a connection between the parts of Route No. 27 already built under the contract for Route No. 5, Section No. 15, and the Manhattan-Bronx Railroad, and will complete the physical connection between the present subway and the new system. The design was made with the view of minimizing the interference of the construction with train operation. In order to disturb the invert as little as possible, metal arch segments are to be used in parts of the invert. The new structure will be of flat roof construction. Specifications, contract and construction drawings have been prepared. This work is to be done by the Interborough Rapid Transit Company, the cost to be part of its contribution as provided in Contract No. 3, under Agreement No. 5. Estimated cost, about \$110,000.

The work to be done under Contract No. 1 extends along 149th street from the easterly end of Mott Avenue station to a point about midway between Spencer place and Park avenue. It is made necessary by the physical connection of the new

subway and the present Interborough Rapid Transit line at 149th street and Mott avenue. It includes the lengthening to the east of the Mott Avenue station platforms, the building of passageways, provision for ventilation, the alteration of the present roof to accommodate the train loads where the subway extends under a proposed New York Central Railroad yard located east of Spencer place, and the rearrangement of ducts and other appurtenances. At the east building line of Spencer place, the subway structure will support an abutment for the viaduct over the proposed New York Central Railroad yards. Due to known variation in subsoil conditions at the site of this work, two alternate designs for the reconstruction of parts of the subway invert were made, using the same steel members in each, but with different depths of concrete between these members; one to be used in case good, sound rock is found, and the other in case of poor rock or earth. The designs were made with a view that this reconstruction could be carried on with the minimum interference with train operation.

An agreement was entered into by the City, the Interborough Rapid Transit Company and the New York Central Railroad Company to do this work. Under this agreement the New York Central & Hudson River Railroad will excavate the embankment east of Spencer place, down to the roof of the subway, and will pay to the Interborough Rapid Transit Company the cost of reconstruction of the subway roof beyond the proposed end of the station, and the City will pay to the Interborough Rapid Transit Company the cost of the remainder of the work, as provided in Contract No. 1. Estimated cost to the City is about \$350,000.

**Construction:**— *Route No. 43, Section No. 1.*— Excavation in earth and rock in both tunnel and open cut was continued throughout the year. The excavation was carried on principally within the limits of the site of the former Grand Union Hotel along the line of the new southbound local track and the new northbound and southbound express tracks. Excavation in open cut under decking was carried on under both 42d street and Park avenue. The tunnel excavation is rapidly approaching completion, but considerable open-cut excavation must still be done.

Good progress has been made in placing the steel and concrete for the main structure. The new southbound local tunnel is practically completed for a distance of about 1,000 feet, from its junction with the existing southbound tunnel to the portal at the westerly end of the new Diagonal station. The structure for the new northbound and southbound express tracks has been completed from its southerly limit to about 41st street. The work just described required the underpinning of the existing rapid transit tunnels and their partial reconstruction to permit the deflection of the tracks into the new tunnels.

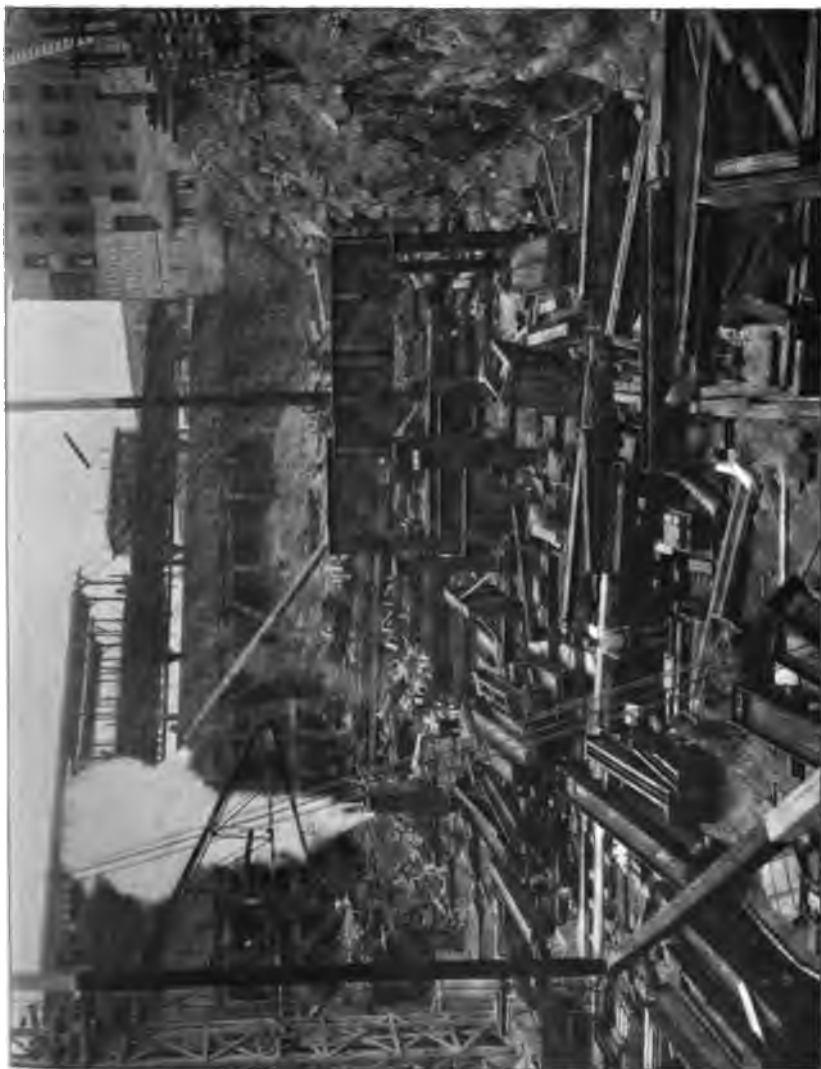
The part of the steel and concrete structure to be built on the site of the former Grand Union Hotel has been about 50 per cent completed.

A special agreement was made providing for the completion within one year of the passageways and elevator shaft connecting the Grand Central station of the Queensboro subway with the new Diagonal station and the Grand Central station of the existing subway. This work was completed within the time specified and the elevators were opened to the public on September 11, 1916.

In order to construct the shuttle tracks which join the existing subway at 42d street between Park and Vanderbilt avenues, the cables in the ducts of the north wall of the subway had to be placed in some other position. To accomplish this, duct manholes were constructed on the north and south sides of the subway just east of Fifth avenue, and a duct crossing joining them built across the subway roof. By means of the manholes and crossing, the cables have been diverted from the north to the south wall, making it possible to remove the north wall. This work, which was done under a modifying agreement, is about completed.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	75
Concrete . . . . .	54
Steel delivered . . . . .	74
Steel erected . . . . .	54
Waterproofing . . . . .	24
Underpinning . . . . .	80



LEXINGTON AVENUE SUBWAY. SITE OF FORMER GRAND UNION HOTEL. STEEL FOR DIAGONAL STATION.  
IN COURSE OF ERECTION



About 69 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of construction on this section from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

*Subway construction*

Earth excavation above M. H. W...	50,319 cu. yds.
Rock excavation . . . . .	31,399 cu. yds.
Tunnel excavation . . . . .	25,403 cu. yds.
Concrete . . . . .	17,069 cu. yds.
Brick masonry . . . . .	10 cu. yds.
Waterproofing . . . . .	3,838 sq. yds.
Tunnel ducts . . . . .	1,800 duct ft.
Steel delivered . . . . .	4,097 tons
Steel erected . . . . .	2,971 tons
Street surface restored . . . . .	2,666 sq. yds.
By-passing pipes upon or below surface (all sizes) . . . . .	2,415 lin. ft.

*Sewer construction*

Earth excavation . . . . .	1,213 cu. yds.
Rock excavation . . . . .	422 cu. yds.
Tunnel excavation . . . . .	6,123 cu. yds.

	Subway construction	Sewer construction
Total value of work completed, as estimated..	\$1,481,251.21	\$121,477.00

*Route No. 43, Section No. 2.*—The New York Central Railroad Company has completed about 99 per cent of the work which it was required to do under the easement agreement for the part of the Diagonal station lying within the limits of the New York Central property at the northwest corner of 42d street and Lexington avenue.

*Route No. 5, Section No. 7.*—Excavation in earth and rock in both tunnel and open cut under decking was continued throughout the year. The tunnel excavation has been completed and that in open cut completed with the exception of the excavation for the 51st street station wings and the ventilation shaft at 53d

street and Lexington avenue. The safety of adjacent buildings required underpinning on the east side of Lexington avenue between 42d and 43d, from 44th to 48th and from 52d to 54th streets, and on the west side of the avenue between 53d and 54th streets.

The main structure for both local and express tracks is practically completed from the southerly end of the section to the tunnel portal at 52d street, except for the wings of the 51st Street station. From the portal to the northerly end of the section, the concrete structure for the express tracks is completed, with the exception of the ventilation shaft at 53d street. The installation of tunnel ducts is about completed.

Restoration of subsurface structures has been under way for several months and considerable progress has been made.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	88
Concrete . . . . .	75
Steel delivered . . . . .	100
Steel erected . . . . .	83
Waterproofing . . . . .	75
Underpinning . . . . .	75

About 74 per cent of the total estimated value of the work is completed.

*Route No. 5, Section No. 8.*—Practically all work on the main subway structure, restoration of subsurface structures, backfilling and repaving were completed during 1915.

The work during 1916 consisted of repairs, changing unsatisfactory details and overhauling temporary pavements.

*Route No. 5, Section No. 9.*—The work on this section was practically completed during 1915. The work during the year consisted of changing unsatisfactory details, repairs and the overhauling of temporary pavements.

*Route No. 5, Section No. 10.*—The work during the year consisted of changing unsatisfactory details, repairs and the overhauling of temporary pavements, practically all work on the main structure having been completed during 1915.



LEXINGTON AVENUE SUBWAY. TIMBERING AND STEEL ERECTION AT 51ST STREET



*Route No. 5, Section No. 11.*— The main structure had been practically completed before the end of 1915. Some work was done during the year in changing unsatisfactory details, in making necessary repairs and in overhauling temporary pavement.

*Route No. 5, Section No. 12.*— Construction work was completed last year on this section, and the only work this year has been the maintenance of a small amount of temporary pavement.

*Route No. 5, Section No. 13.*— During the year the structure was completed from the south side of 126th street to the north end of the section. Backfilling and restoring of subsurface structures, laying of temporary pavement, etc., have been practically completed from 124th street to the north end of the section. There has been a very large amount of work in the neighborhood of 125th street, where heavy traffic and complicated structures have increased the difficulties very materially. This work would have been completed some time ago but for labor conditions, it being almost impossible to secure sufficient men to carry on the work.

*Route No. 5, Section No. 14.*— Work on this section was begun on September 13, 1912, and is now complete. The only work done during the year was the restoration of the dock on the south side of the Harlem river, the restoration of some subsurface structures and the laying and maintenance of temporary pavement.

*Route No. 5, Section No. 15.*— Work was begun on December 4, 1911, and is now complete. The only work done during the year was the maintenance of some temporary pavement.

In the following tables are given the work done under the principal items on each section of Route No. 5, and the total value of work estimated on each of these sections. from the beginning of construction to December 31, 1916:

## WORK DONE UNDER THE PRINCIPAL ITEMS OF EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

ITEM	Unit	Sec. 7	Sec. 8	Sec. 9	Sec. 10	Sec. 11	Sec. 12	Sec. 13	Sec. 14	Sec. 15	Total
<i>Subway construction</i>											
Earth excavation above M. H. W.	Cu. yds.	61,099	91,871	57,772	40,621	49,682	108,437	60,899	31,175	212,141	710,667
Earth excavation below M. H. W.	Cu. yds.	105,615	47,190	77,169	116,450	17,966	65,584	41,783	111,238	50,824	287,885
Rock excavation	Cu. yds.	1,122	841	1,577	838	62,242	25,535	203,124	33,970	280,513	903,908
Underpinning buildings less than 7 stories	Lin. front ft.	4,892	73,606	58,425	48,380	70,051	4,856	186	.....	.....	17,416
Underpinning buildings 7 to 12 stories	Lin. front ft.	23,560	52,718	47,165	42,592	45,751	.....	.....	.....	.....	252
Tunnel excavation	Cu. yds.	.....	31	724	1,040	70,051	40,069	57,000	33,068	89,767	255,384
Concrete	Cu. yds.	.....	31	724	1,040	45,751	144	.....	.....	.....	431,680
Rubble stone masonry	Cu. yds.	.....	49	76	78	39	835	.....	.....	.....	2,892
Brick masonry	Cu. yds.	11,590	18,998	22,622	16,007	26,828	55,746	38,130	23,271	93,674	1,543
Waterproofing	Sq. yds.	296	343	685	398	2,183	5,195	5,513	5,721	8,247	316,866
Brick in asphalt mastic	Cu. yds.	138,480	287,542	239,307	290,531	266,151	242,005	222,716	94,314	220,263	2,001,329
Tunnel ducts	Duct ft.	3,872	2,987	2,536	3,823	3,893	4,353	9,124	5,401	12,018	48,007
Steel delivered	Tons	3,269	2,987	2,536	3,823	3,893	4,353	9,124	5,401	12,018	48,007
Steel erected	Tons	.....	13,038	12,729	11,357	9,483	17,343	12,200	7,636	31,402	115,178
Street surface restored	Sq. yds.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Street surface electric railroad in final position (single track)	Lin. ft.	2,460	7,583	6,194	5,449	3,579	6,750	5,900	1,495	3,528	43,298
By-passing pipes upon or below surface (all sizes)	Lin. ft.	5,212	9,000	17,400	8,260	3,600	.....	.....	1,084	.....	44,556
By-passing pipes on trestle	Lin. ft.	1,420	.....	160	220	.....	.....	.....	.....	.....	1,800
Trestle for by-passing pipes	Lin. ft.	1,619	.....	.....	190	.....	.....	.....	1,080	.....	2,889
<i>Harlem River tubes</i>											
Steel erected	Tons	.....	.....	.....	.....	.....	.....	.....	3,047	.....	3,047
Steel delivered	Tons	.....	.....	.....	.....	.....	.....	.....	3,047	.....	3,047
Concrete	Cu. yds.	.....	.....	.....	.....	.....	.....	.....	51,550	.....	51,550
Dredging	Cu. yds.	.....	.....	.....	.....	.....	.....	.....	275,000	.....	275,000
<i>Tunnels under New York Central Railroad tracks</i>											
Tunnel excavation	Cu. yds.	.....	.....	.....	.....	.....	.....	.....	11,300	.....	11,300
Concrete	Cu. yds.	.....	.....	.....	.....	.....	.....	.....	4,977	.....	4,977
Cast-iron	Tons	.....	.....	.....	.....	.....	.....	.....	850	.....	850
Waterproofing	Sq. yds.	.....	.....	.....	.....	.....	.....	.....	2,840	.....	2,840
<i>Sewer construction</i>											
Earth excavation	Cu. yds.	4,046	30,473	12,882	5,606	3,919	13,150	1,800	5,209	16,677	93,762
Rock excavation	Cu. yds.	2,621	6,193	4,875	3,840	1,949	213	735	3,138	4,162	27,136
Concrete masonry	Cu. yds.	.....	836	208	228	815	1,725	10	83	4,807	3,717
Sewers constructed, all sizes	Lin. ft.	2,570	8,448	5,780	3,829	2,451	5,225	3,043	1,287	8,778	41,417

TOTAL VALUE OF WORK ESTIMATED ON EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

SECTION	Subway construction	Sewer construction	Total
7.....	\$1,411,406 00	\$50,353 50	\$1,461,759 50
8.....	2,680,011 32	362,677 46	3,042,688 78
9.....	2,159,519 14	165,822 51	2,325,341 65
10.....	2,403,501 95	106,221 95	2,509,723 90
11.....	2,698,666 72	69,909 06	2,768,575 78
12.....	2,536,346 78	118,704 27	2,655,051 05
13.....	3,814,696 55	50,514 50	3,865,211 05
14.....	3,852,216 44	61,373 00	3,913,589 44
15.....	4,094,799 17	133,766 92	4,228,566 09

**Sewer Work:**— *Route No. 43, Section No. 1.*— To December 31, 1916, 2,230 linear feet of sewers were constructed, constituting about 87 per cent of the work on this section.

The work done includes the construction of about 1,500 feet of the 8' x 8' off-line tunnel sewer in East 41st street; the construction of the triple 42-inch pipe crossing, and the east and west chambers at Park avenue and 41st street which connect the new 8' x 8' tunnel sewer with a new 6' x 6' tunnel sewer being built west of Park avenue by the City. Several hundred feet of new sewer were also built in Park avenue.

*Route No. 5, Section No. 7.*— During the year, 1,248 feet of sewers were built, which is the total to December 31, 1916, and constitutes about 82 per cent of the entire sewer work on this section.

The sewer layout on the west side of Lexington avenue, between 44th street and 47th street, was changed from that shown on the contract drawings. The flow was reversed and taken into the 44th Street crossing instead of into the 48th Street crossing and the sewer size modified. This was done at the request of the Manhattan Sewer Bureau to relieve the 48th Street sewer.

Four hundred and eleven feet of cast-iron pipe sewer were substituted for vitrified pipe and masonry sewers shown on the contract drawings.

*Route No. 5, Section No. 8.*— The entire sewer work on this section was completed during 1915, record drawings in plan and profile have been completed, and the sewers turned over to the President of the Borough of Manhattan for future maintenance and control.

*Route No. 5, Section No. 11.*—Sewer work was completed on this section during 1915, record drawings in plan and profile have been completed, and the sewers turned over to the President of the Borough of Manhattan for future maintenance and control.

*Route No. 5, Section No. 13.*—733 feet of sewers were completed during the year, making a total of 3,364 feet, and the entire sewer work has been practically completed. Sewer record drawings have been started and the necessary information to complete them is being obtained.

*Route No. 5, Section No. 14.*—On this section, sewer work having been completed, the record drawings have been prepared and the sewers turned over to the presidents of the respective boroughs for maintenance and control.

*Contracts for Station Finish, Track Installation, Etc.*

The construction of Sections Nos. 1 and 2 of Route No. 43, and Sections Nos. 7 to 11, and Sections Nos. 12 to 15, Route No. 5, having advanced sufficiently to permit the placing of station finish and the installation of tracks, contracts for such work, required to be entered into separately from the regular construction contracts for these sections, were let during the year. A contract was also let as affecting Route No. 5 for the construction of a duct line on Walton avenue and 157th street connecting Route No. 5 and Route No. 16. These contracts and the work to be performed thereunder may be more particularly described as follows:

*Station Finish, Route No. 43, Sections Nos. 1 and 2.*—Bids have been opened for the contract for station finish for Sections Nos. 1 and 2 of Route No. 43, including also similar work for Sections Nos. 5, 6 and 6-A of Routes Nos. 4 & 38, which latter sections are described elsewhere. The lowest bid for the combined work covering both these routes was that of Louis Wechsler, which amounted to \$382,521. An assignment of this contract has been made to John B. Roberts, and approval of such assignment given by the Commission, and work on this contract it is now expected will be taken in hand at an early date.

*Station Finish, Route No. 5, Sections Nos. 7 to 11.*—A contract for the construction of station finish for the seven stations on Sections Nos. 7 to 11 of Route No. 5 was let to John B.

Roberts on August 9, 1916, the contract price being \$278,182.66. Work has been started on all stations except that at 51st street which is still under construction. The hollow tile work, plastering, rough plumbing and the installation of electric conduits have been completed for the 59th, 68th, 77th, 86th, 96th and 103d Street stations, except for the portion of the 59th Street station directly above the 60th Street crosstown subway. The glazed tile has been placed for the 59th and 103d Street stations, and considerable progress has been made in constructing the stairways for the 77th Street, 86th Street and 103d Street stations.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work, all kinds.....	15,926 sq. ft.
Plastering . . . . .	26,365 sq. yds.
Cement finish . . . . .	5,497 sq. ft.
Concrete stairs . . . . .	6,594 lin. ft.
Common brick . . . . .	4,699 cu. ft.
Hollow tile . . . . .	19,702 cu. ft.
Electric conduits . . . . .	19,587 lin. ft.
Total value of work completed, as estimated . . . . .	\$63,666.40

*Station Finish, Route No. 5, Sections Nos. 12 to 15.*—On August 9, 1916, the contract for finishing the stations on Route No. 5, Sections Nos. 12 to 15, was let to A. W. King & Co., Inc. Contract price, \$316,091.06. This contract includes the finishing of stations at 110th, 116th and 125th streets and Lexington avenue, 138th and 149th streets and Mott avenue, and 138th street and Third avenue. This contract also includes the construction of a paneled concrete wall on the approach walls, from the portal of the subway near 153d street and Gerard avenue to the beginning of the elevated structure near 157th street and River avenue. It also provides for the restoration of the station finish in the Mott Avenue station constructed under Contract No. 1, where this finish was damaged during the construction of the new subway station on Mott avenue.

The contractor began work very shortly after his contract was

delivered, and, considering the delays in receipt of material on account of congestion of freight and delays due to labor difficulties, has made very good progress. By the time the contract period expires, February 9, 1917, these six stations will be practically completed, if extremely cold weather during the winter does not prevent.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work, all kinds.....	27,011 sq. ft.
Plastering . . . . .	23,745 sq. yds.
Cement finish . . . . .	44,827 sq. ft.
Concrete stairs . . . . .	4,645 lin. ft.
Common brick . . . . .	11,450 cu. ft.
Hollow tile . . . . .	16,908 cu. ft.
Electric conduits . . . . .	19,473 lin. ft.
Painting . . . . .	34,624 sq. ft.
Total value of work completed, as estimated . . . . .	\$81,908.33

*Track Installation, Sections Nos. 1 and 2 of Route No. 43, and Sections Nos. 7 to 15 of Route No. 5.*—The contract for this work was made with the Empire Construction Company on March 28, 1916, for approximately \$276,433. It provides for the installation of tracks in the subway and on the elevated structure from the connection of the present subway at about 41st street to Woodlawn road on Jerome avenue. Practically all of the material going into the track is furnished by the City. Since the commencement of the work the contractor has been hampered in the prosecution of his contract on account of delay in receiving material due to freight embargoes.

The first lift of ballast for the track known as Type I, which is to be installed outside the station limits, has been distributed, the track assembled and the rails bonded for both local and express tracks between 60th and 106th streets.

The concrete roadbed or Type II track, which is to be installed within station limits, has been completed for the 86th street, local and express, and the 96th street and 103d street local stations.

The special material for the crossovers at 61st street and 86th street has been delivered and is ready to be installed.

The subway structure between 38th and 53d streets is still under construction and no track installation has been undertaken within these limits.

On the subway portion of this work the contractor has laid tracks, but not lined or surfaced them, from the portal near 154th street and Gerard avenue to 53d street on Lexington avenue. In the Loop tracks, which will connect the new subway to the old subway at 149th street and Mott avenue, the first lift of ballast has been distributed.

On the elevated structure the rails have been spiked down from the abutment at 157th street near River avenue to Fordham Road station. Guard timber and slatting are installed to Burnside avenue, and the installation of hand rails has begun.

This contract with the Empire Construction Company also covers the work of installation of tracks on the Jerome Avenue extension, Route No. 16, Sections Nos. 1 and 2, as hereinafter referred to in the progress of work covered by those sections.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Type I track .....	51,934 lin. ft.
Type II track .....	8,443 lin. ft.
Type III track .....	31,836 lin. ft.
Type IV track .....	1,302 lin. ft.
Special work .....	\$4,357.87 lump sum
Total value of work completed, as estimated.....	110,040.50

*Duct Line on Walton Avenue and 157th Street, Connecting Routes Nos. 5 and 16.*—On August 12, 1916, the contract for the construction of a duct line in Walton avenue, from the subway structure to 157th street, and in 157th street to River avenue, to connect with the duct line previously constructed in River avenue, was let to the T. H. Reynolds Contracting Company, Inc., for \$10,307.

Work under this contract has been completed, with the excep-

tion of a duct manhole connecting the duct line in the street with the tunnel ducts on the west side of the structure in Walton avenue.

The total value of work completed as estimated, from the beginning of construction to December 31, 1916, is \$10,164.64.

#### PELHAM BAY PARK EXTENSION

**Plans:**— This is a three-track line, partly in subway and partly an elevated structure, and is a continuation of the easterly branch of Section No. 15 of Route No. 5. It extends from a point near Alexander avenue easterly along 138th street and Southern boulevard, Whitlock and Westchester avenues to Pelham Bay park, and is known as Routes Nos. 19 & 22. It is divided for convenience of construction into three sections, known as Nos. 1, 1-A and 2.

*Routes Nos. 19 & 22, Section No. 1.*—A three-track subway extending from about Alexander avenue under 138th street and Southern boulevard to about 147th street. This contract was originally let to the John F. Stevens Construction Company, the contract later being assigned to the Richard Carvel Company. Date of contract, October 22, 1912. Contract period, 40 months, extended to August 22, 1916. Summary of contractor's bid, \$2,253,281.75.

The working drawings were completed prior to 1916.

*Routes Nos. 19 & 22, Section No. 1-A.*—A three-track subway under Southern boulevard and Whitlock avenue, from about 147th street to Bancroft street. Near the latter point the tracks ascend to an embankment to make connection with the elevated railroad construction of Section No. 2 of this route. Rodgers & Hagerty, Incorporated, contractors. Date of contract, December 31, 1913. Contract period, 30 months, extended to January 1, 1917. Summary of contractor's bid, \$2,253,000.

The working drawings and checking of shop drawings were completed prior to 1916, except those required to meet contingencies which arose during construction.

*Routes Nos. 19 & 22, Section No. 2.*—A three-track elevated line, over Whitlock and Westchester avenues from Bancroft street to Eastern boulevard at Pelham Bay park. The working drawings have been prepared during the year and a portion of the shop drawings checked. The line crosses over the tracks of the



**PELHAM BAY PARK BRANCH, LEXINGTON AVENUE SUBWAY. STRUCTURE UNDER  
NEW YORK CENTRAL RAILROAD TRACKS, PORT MORRIS BRANCH**



New Haven Railroad at Westchester avenue, and also over the Bronx river, which is a navigable stream at this point. The War Department has issued a permit for the construction of a fixed bridge over this stream instead of a draw which had been originally proposed. The permit for the construction of this bridge provides for a clear headroom of 61 feet above mean high water. Ornamental concrete stations are to be built at three points on this line, namely, at the Hugh J. Grant circle at the intersection of 177th street and Westchester avenue; at Westchester square and at the terminal station at Pelham Bay park. Contractor, Mr. Lawrence C. Manuell. Date of contract, May 5, 1916. Contract period, 18 months. Summary of contractor's bid, \$2,063,877.50. The contract has been assigned as follows: To the American Bridge Company for furnishing steel, and to the Flick-Manuell Construction Company for the remainder of the contract. Preliminary plans have been made for a yard on this section, but exact location has not been determined.

**Construction:**— *Routes Nos. 19 & 22, Section No. 1.*— During the year the contractor has completed the main portion of the subway structure except for part of the Brook Avenue station and for short stretches south of 139th street and at 142d street. It is estimated that the construction work is 91 per cent completed, and the contractor is now engaged in street restoration and the completion of the small stretches above referred to.

Interesting construction work which has been in progress during the year consists of the raising of the grade of 138th street at Brook avenue about 5 feet, in order that the subway structure may run over the trunk sewer in Brook avenue; the modification of the Brook Avenue trunk sewer, and the construction of the subway structure under the Port Morris branch of the New York Central Railroad at 142d street.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	98
Concrete . . . . .	90.6
Steel delivered . . . . .	97.9
Steel erected . . . . .	97.1
Waterproofing . . . . .	84

About 92.2 per cent of the total estimated value of the work is completed.

*Routes Nos. 19 & 22, Section No. 1-A.*— During the year the contractor has practically completed the entire subway structure along this section, there remaining at this time unfinished only small details in connection with the stations which are located at 149th street, Longwood avenue and Hunts Point avenue, and painting the steel work inside the structure.

The contractor is at present maintaining a temporary pavement along that portion of the section which was originally paved, except between Leggett avenue and Longwood avenue, where the permanent pavement is at present being placed.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	96.6
Concrete . . . . .	95.9
Steel delivered . . . . .	97.7
Steel erected . . . . .	94.8
Waterproofing . . . . .	86.8

About 92.4 per cent of the total estimated value of the work is completed.

*Routes Nos. 19 & 22, Section No. 2.*— The contractor started work on July 5, 1916, and has completed during the year about 30 per cent of the concrete footings, and about 20 per cent of the railroad duct line. Special footings are to be constructed in the deep fill just north of Westchester village, where it will be necessary to construct the concrete piers some 18 or 20 feet below the street surface, which in turn will be carried by piles extending 50 to 75 feet below the street surface.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	38.5
Concrete . . . . .	23.4
Steel delivered . . . . .	0.3
Steel erected . . . . .	0.1



ELHAM HAY PARK BRANCH, LEXINGTON AVENUE SUBWAY. CONCRETE FLOOR CONSTRUCTION AND TIMBER-  
ING SUPPORTING STREET DECKING IN SOUTHERN BOULEVARD



About 4 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of construction on Sections Nos. 1, 1-A and 2 of the Pelham Bay Park extension, Routes Nos. 19 & 22, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

ITEM	Unit	Section 1	Section 1-A	Section 2	Total
<i>Subway construction</i>					
Column excavation.....	Cu. yds.....	.....	.....	15,782	15,782
Duct excavation.....	Cu. yds.....	.....	.....	2,662	2,662
Earth excavation above M. H. W.....	Cu. yds.....	179,981	174,606	.....	354,587
Earth excavation below M. H. W.....	Cu. yds.....	9,444	.....	.....	9,444
Rock excavation.....	Cu. yds.....	182,147	166,231	.....	348,378
Underpinning buildings less than 7 stories.....	Lin. front ft.....	235	190	.....	425
Concrete.....	Cu. yds.....	57,568	58,189	3,644	117,401
Waterproofing.....	Sq. yds.....	64,211	50,142	.....	114,353
Brick in asphalt mastic.....	Cu. yds.....	3,719	1,296	.....	5,015
Tunnel ducts.....	Duct ft.....	235,124	263,303	.....	498,427
Steel delivered.....	Tons.....	6,585	6,779	79	13,443
Steel erected.....	Tons.....	6,533	6,625	31	12,189
Street surface electric railroad in final position (single track).....	Lin. ft.....	11,570	7,740	.....	19,310
By-passing pipes upon or below surface (all sizes).....	Lin. ft.....	14,288	5,536	.....	19,824
Railroad ducts.....	Duct ft.....	.....	.....	75,320	75,320
<i>Sewer construction</i>					
Earth excavation.....	Cu. yds.....	9,454	15,893	.....	25,347
Rock excavation.....	Cu. yds.....	4,765	11,843	.....	16,608
Concrete masonry.....	Cu. yds.....	827	538	.....	1,365
Sewers constructed, all sizes.....	Lin. ft.....	8,664	11,978	.....	20,642

	Subway construction	Sewer construction
Section 1, total value of work completed, as estimated.....	\$2,291,014 92	\$88,882 66
Section 1-A, total value of work completed, as estimated.....	2,049,800 22	184,608 50
Section 2, total value of work completed, as estimated.....	82,617 95	.....

**Sewer Work:— Routes Nos. 19 & 22, Section No. 1.**—About 75 per cent of the sewer work has been completed on this section. During the year 3,712 linear feet of sewers were built, making a total to December 31, 1916, of 9,082 linear feet; also the modification of the Brook Avenue sewer has been entirely completed, and about 60 per cent of the siphon at 144th street has been completed.

**Routes Nos. 19 & 22, Section No. 1-A.**— During the year 5,386 linear feet of sewers were built, making the total to December 31,

1916, 13,193 linear feet, which completes all sewer work on this section. Sewer record drawings have been started, and the necessary information to complete them is being obtained.

*Routes Nos. 19 & 22, Section No. 2.*— This section is an elevated railway structure. An adjustment of the location of columns on Westchester avenue between Walker avenue and Blondell avenue was necessary in order to avoid physical interference with a new 12' 9" x 8' 0" concrete sewer, the construction of which was begun during the year by the Bronx Sewer Department. It will also be necessary to make changes in sewers and their appurtenances on account of interference with column footings.

During the year the following work was completed:

- 4 Receiving basins
- 4 Manholes
- 75 lin. ft. of receiving basin connections

#### JEROME AVENUE EXTENSION

*Plans:*— This is a three-track elevated line which connects with the west branch of Route No. 5, Section No. 15, and extends from a point near 157th street over River avenue and Jerome avenue to Woodlawn road, or Bainbridge avenue. It is known as Route No. 16, and is divided for purposes of construction into two sections known as Nos. 1 and 2.

*Route No. 16, Section No. 1.*— This section begins at a point near 157th street and River avenue and extends in a northerly direction over River and Jerome avenues to about East 182d street. Oscar Daniels Company, contractor. Date of contract, December 31, 1913. Contract period, 18 months. Summary of contractor's bid, \$1,077,978.

Connection is made on this line at 162d street with an extension from the Ninth Avenue Elevated line.

Working drawings for this section were completed prior to 1916, except for some minor details.

*Route No. 16, Section No. 2.*— This section begins at about 182d street and extends northerly over Jerome avenue to about 198th street; it cuts thence across the Jerome Park Reservoir property to a point near 204th street and Jerome avenue, and thence over Jerome avenue to Bainbridge avenue. Cooper &

Evans Company, contractor. Date of contract, April 3, 1914. Contract period, 18 months. Summary of contractor's bid, \$1,076,831.

Working drawings for this section were completed prior to 1916, except for some minor details.

It is proposed to construct a yard for the storage of cars for this route on the property acquired by the City for reservoir purposes on the west side of Jerome avenue south of Mosholu parkway known as Jerome Park Reservoir property. Preliminary sketches and estimates have been prepared and the preparation of contract drawings begun. It is expected that the contract for this yard can be advertised early in 1917.

**Construction:—Route No. 16, Section No. 1.**—Construction work has been entirely completed on this section.

**Route No. 16, Section No. 2.**—This section is completed, but little construction work remaining to be done at the close of 1915. During the year the stations at 200th street, Mosholu parkway and Bainbridge avenue received special architectural treatment.

The following tabulation gives the work done under the principal items of construction on each section of the Jerome Avenue extension, Route No. 16, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

ITEM	Unit	Section 1	Section 2	Total
Earth excavation.....	Cu. yds.....	.....	5,071	5,071
Rock excavation.....	Cu. yds.....	.....	5,212	5,212
Column excavation.....	Cu. yds.....	28,900	20,687	49,587
Railway duct excavation.....	Cu. yds.....	11,731	11,422	23,153
Concrete masonry.....	Cu. yds.....	7,844	6,413	14,257
Station concrete masonry.....	Cu. yds.....	.....	6,539	6,539
Brick masonry.....	Cu. yds.....	18	9	27
Timber piles.....	Lin. ft.....	.....	2,780	2,780
Waterproofing.....	Sq. yds.....	.....	2,804	2,804
Railway ducts.....	Duct ft.....	395,667	363,333	759,000
Steel delivered.....	Tons.....	17,413	15,144	32,557
Steel erected.....	Tons.....	17,413	15,144	32,557
Cast iron delivered.....	Tons.....	124	164	288
Cast iron erected.....	Tons.....	124	164	288
Vitrified pipe in place.....	Lin. ft.....	164	983	1,147
Iron pipe in place.....	Lin. ft.....	18	1,018	1,036
Street surface electric railroad in final position (single track).....	Lin. ft.....	17,537	24,206	41,743
Street surface restored.....	Sq. yds.....	9,148	4,474	13,622

Section 1, total value of work completed, as estimated..... \$1,123,073 97  
 Section 2, total value of work completed, as estimated..... 1,117,898 63

**Sewer Work:**— *Route No. 16, Section No. 1.*— All sewer work on this section was completed during 1915, and record drawings have since been prepared and filed with the Bronx Sewer Bureau.

*Route No. 16, Section No. 2.*— Sewer construction on this section was also completed during 1915, and record drawings subsequently filed with the Bronx Sewer Bureau.

*Contracts for Station Finish and Track Installation*  
*Route No. 16*

*Station Finish.*— The construction work on Sections 1 and 2 of Route No. 16 being advanced to permit station finish and track installation work, a contract was let to the Altoria Realty & Construction Company on August 31, 1915, for \$860,636.50, for the construction of the station finish for twenty-three stations, twelve of which apply to Route No. 16, and for the construction of enclosures between stations. This contract also covers similar work (eleven stations) for Sections Nos. 1 and 2, Route No. 18, as included in the progress of work following referring to those sections.

The work was to be completed within six months of the date of delivery of the contract, except on such stations as the contractor had not been notified to begin work within four months after the delivery of the contract.

At all the stations the wood floors of the train platforms, the concrete train platform and track floors over the mezzanines, the canopies, and windscreens, except for drop sash, have been placed. The wood underflooring, enclosure walls, including windows and copper sheathing, oak finish where called for, and partition walls to the mezzanine enclosures have been placed. Stairways from street to mezzanines and mezzanines to train platforms have been erected. Electric conduits and all rough plumbing have been installed, together with the plumbing fixtures at two stations. Waterproofing has been placed wherever necessary. At about three-fourths of the stations manholes have been built and ticket booths temporarily set, and on about one-half of the stations railings and gates, together with the gate controls on the mezzanines, have been placed.

The following tabulation gives the work done under the principal items of this contract from the beginning of construction to

December 31, 1916, and the total estimated value of work completed during the same period:

Concrete . . . . .	36 cu. yds.
Stairways . . . . .	7,167 lin. ft.
Canopies . . . . .	131,790 sq. ft.
Windscreens . . . . .	5,933 lin. ft.
Mezzanine enclosure walls..	18,478 sq. ft.
Electric conduits . . . . .	18,666 lin. ft.
Plumbing . . . . .	\$6,723 lump sum
Train platforms . . . . .	155,592 sq. ft.
Mezzanine floors and ceilings	42,650 sq. ft.
Railings and gates.....	5,242 lin. ft.
Metal gutters and leaders...	11,924 lin. ft.
Total value of work completed, as estimated.....	\$254,407.32

*Track Installation.*— This contract provides for the installation of tracks on the elevated structure, Route No. 16, Sections Nos. 1 and 2, from the abutment near 157th street and River avenue to the terminal station on Bainbridge and Jerome avenues.

This contract was let March 30, 1916, to the Empire Construction Company, and work was started on April 5, 1916. The estimated approximate cost for this portion of the line is \$107,527.32, the entire contract with the Empire Construction Company for track installation including also that for Sections Nos. 1 and 2 of Route No. 43 and Sections Nos. 7 to 15 of Route No. 5, as noted in the progress of this contract under those sections.

Track material is furnished to the contractor by the City, and under the contract the work is to be completed within six months from the date of its delivery to the contractor. Since its commencement the contractor has been delayed on the work on account of time lost in receiving material due to freight embargoes.

The following tabulation gives the work done under the principal items of this contract from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Type III track.....	31,836 lin. ft.
Special work . . . . .	\$2,249.82 lump sum
Total value of work completed, as estimated . . . . .	\$37,308.70

## WHITE PLAINS ROAD EXTENSION

**Plans:**— This route is an extension of the West Farms branch of the First Subway from a point near 179th street and Boston road. It is a three-track elevated line, extending easterly from the First Subway over private property and the Bronx river, and thence in a northerly direction on private property between the east line of Bronx park and the right of way of the New York, Westchester and Boston Railway, to and over Birchall avenue and White Plains road to about 241st street. The Webster Avenue extension of the Third Avenue "L" joins the line north of Gun Hill road, so that trains from the north may run south to Manhattan either over the subway line or the Third Avenue line. This line is known as Route No. 18 and is divided into two contract sections, Nos. 1 and 2.

*Route No. 18, Section No. 1.*— This section extends from the connection with the First Subway near 179th street and Boston road to about Burke avenue. The portion of the line on private property between 180th street and Unionport road is mostly on embankment; the balance is on the usual steel structure. Oscar Daniels Company, contractor. Date of contract, December 31, 1913. Contract period, 18 months, extended to October 1, 1916. Summary of contractor's bid, \$914,400.

Working drawings for this section were completed prior to 1916.

A railroad storage yard is being built along this section between 180th street and Unionport road. Thomas J. Buckley Construction Company, contractor. Date of contract, August 15, 1916. Contract period, 12 months. Summary of contractor's bid, \$269,222.50. The contract, contract drawings and working drawings have been completed.

*Route No. 18, Section No. 2.*— This section extends over White Plains road from Burke avenue to the terminus, about 241st street. It is a steel structure and includes the junction between this line and the Webster Avenue extension of the Third Avenue "L". Grade crossings are avoided at the connection between the two lines. A double-deck station, one level for each line, is located near Gun Hill road immediately adjacent to the point where the lines diverge. Alfred P. Roth, contractor. Date of



WHITE PLAINS ROAD LINE. COMPLETED STRUCTURE NEAR 180TH STREET





WHITE PLAINS ROAD LINE. ORNAMENTAL CONCRETE STATION (BRONX PARK EAST)



contract, January 13, 1914. Contract period, 18 months, extended to January 10, 1916. Summary of contractor's bid, \$958,484.

The working drawings were completed prior to 1916.

A railroad storage yard is to be built near the terminus of this line between 239th street and Baychester avenue. Thomas J. Buckley Construction Company, contractors. Date of contract, December 18, 1916. Contract period, 10 months. Summary of contractor's bid, \$372,893.

Contract and contract drawings for the storage yard have been completed and working drawings are under way.

The contract for this storage yard is now before the Board of Estimate and Apportionment for approval.

**Construction:**—*Route No. 18, Section No. 1.*—With the exception of about 1,840 feet of structure to be erected, and such remaining work necessary to be done on the concrete ornamental stations at Bronx park east and Pelham parkway, in the way of special architectural treatment, construction work on this section was completed during 1915. All work on this section is now finally completed.

In connection with the storage yard on this section, to be built by the Thomas J. Buckley Construction Company under its contract dated August 15, 1916, work began immediately upon the execution of the contract, with the result that construction of piers for the inspection sheds, excavation for the masonry retaining walls, and the placing of the fill for the main body of the yard have been well started.

*Route No. 18, Section No. 2.*—All construction work remaining to be done on this section was completed early in the year 1916.

The following tabulation gives the work done under the principal items of construction on each section of the White Plains Road extension, Route No. 18, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

ITEM	Unit	Section 1	Section 2	Total
Column excavation.....	Cu. yds....	20,428	25,910	46,338
Railway duct excavation.....	Cu. yds....	14,225	8,035	22,260
Railway embankment.....	Cu. yds....	40,500	.....	40,500
Concrete masonry.....	Cu. yds....	10,370	5,723	16,093
Brick masonry.....	Cu. yds....	16	9	25
Waterproofing.....	Sq. yds....	956	.....	956
Railway ducts.....	Duct ft....	289,390	238,313	527,703
Steel delivered.....	Tons.....	12,462	15,690	28,152
Steel erected.....	Tons.....	12,462	15,690	28,152
Cast iron delivered.....	Tons.....	126	200	326
Cast iron erected.....	Tons.....	126	200	326
Vitrified pipe in place.....	Lin. ft....	120	814	934
Street surface electric railroad in final position (single track).....	Lin. ft....	9,878	22,137	32,015
Street surface restored.....	Sq. yds....	4,046	9,720	13,766
Section 1, total value of work completed, as estimated.....				\$923,536 98
Section 2, total value of work completed, as estimated.....				998,265 47

**Sewer Work:**— *Route No. 18, Section No. 1.*— All sewer work on this section having been completed during the year 1915, record drawings have since been prepared and copies filed with the Bronx Sewer Bureau.

*Route No. 18, Section No. 2.*— On this section sewer work was also completed during 1915, and copies of record drawings prepared subsequently filed with the Bronx Sewer Bureau.

For the 239th Street storage yard to be built on this section under contract recently let for its construction, sewer contract drawings have been prepared.

Two main systems of drainage are provided; a storm water drainage system and a sanitary drainage system. The storm water drainage system preserves the natural drainage conditions by conducting the storm run-off from the yard and the inspection shed roof into its present watercourse. The sanitary drainage system collects all the drainage from the train pits, toilets and basins at an ejector pit from which it will be ejected into the existing public sewer in White Plains road. Provision is made whereby the sanitary flow may be discharged by gravity directly into the future City sewers as soon as they are built, thus eliminating the use of the ejector.

#### *Contracts for Station Finish and Track Installation Route No. 18*

**Station Finish.**— As explained under Route No. 16, just previously described, the contract awarded to the Altoria Realty &



WHITE PLAINS ROAD LINE. STRUCTURE NEAR BEAR SWAMP ROAD



Construction Company for station finish covering Routes Nos. 16 & 18 included eleven stations on Route No. 18; and that under this contract work was to be completed within six months from the date of delivery of the contract, except on such stations as the contractor had not been notified to begin work within four months after the delivery of the contract. For the same reasons which obtained as causing delay in the prosecution of this work for the stations on Route No. 16, an extension of time was also granted for the completion of the 180th Street, Bronx Park East and Pelham Parkway stations, on Route No. 18, to September 13, 1916.

At all the stations the wood floors of the train platforms, the concrete train platform and track floors over the mezzanines, the canopies and windscreens, except for drop sash, have been placed. The wood underflooring, enclosure walls, including windows and copper sheathing, oak finish where called for, and partition walls to the mezzanine enclosures have been placed. Stairways from street to mezzanines and mezzanines to train platforms have been erected. Electric conduits and all rough plumbing have been installed, together with the plumbing fixtures at two stations. Waterproofing has been placed wherever necessary. At about three-fourths of the stations manholes have been built and ticket booths temporarily set, and on about one-half of the stations railings and gates, together with the gate controls on the mezzanines, have been placed.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work, all kinds.....	275 sq. ft.
Concrete . . . . .	23 cu. yds.
Stairways . . . . .	6,352 lin. ft.
Canopies . . . . .	114,098 sq. ft.
Windscreens . . . . .	3,683 lin. ft.
Mezzanine enclosure walls..	15,481 sq. ft.
Electric conduits . . . . .	17,195 lin. ft.
Plumbing . . . . .	\$6,384 lump sum
Railings and gates.....	4,797 lin. ft.

Train platforms .....	150,609 sq. ft.
Mezzanine floors and ceilings	35,542 sq. ft.
Metal gutters and leaders...	4,705 lin. ft.
Total value of work completed, as estimated.....	\$215,918.70

*Track Installation.*— This contract provides for the installation of track on the White Plains Avenue Elevated line, beginning at the connection with the West Farms branch of the existing subway at 179th street and Boston road and extending to the terminal station at 241st street and White Plains avenue. Contract let to the Coast & Lakes Corporation. Contract price, \$94,280.50.

Work was begun on April 19, 1916, and, except for the connection to the old subway structure at 179th street, the track installation has been practically completed from 179th street to 219th street, and the work is fast approaching this stage from 219th street to the Neroid Avenue station.

The following tabulation gives the work done under the principal items of this contract from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Type III track.....	53,729 lin. ft.
Type VI track.....	4,791 lin. ft.
Special work .....	\$1,104 lump sum
Total value of work completed, as estimated .....	\$52,635.35

#### WEST TRUNK LINE IN MANHATTAN

*Plans:*— This line is made up of the First Subway north of Times square and extension therefrom to the south along Seventh avenue, Varick street, West Broadway and Greenwich street to a connection with the First Subway at the Battery. It is four-track to about Park place, and two-track south of that point. For the portion between 34th and 40th streets there are five tracks. It is designated as the Seventh Avenue subway, Routes Nos. 4 & 38, and divided into eight contract sections, No. 1-A, Nos. 1 to 6 inclusive, and No. 6-A.

*Routes Nos. 4 & 38, Section No. 1-A.*— This covers the new work at Battery park and includes the actual connection to the First Subway there. The contractor is the Rapid Transit Subway Construction Company, a subsidiary of the Interborough Rapid Transit Company. Date of contract, September 4, 1914. Contract period, 31 months. Summary of contractor's bid, \$472,244.

The working drawings and checking of shop drawings were completed during the year.

*Routes Nos. 4 & 38, Section No. 1.*— This section extends from Battery park under Greenwich street to a point near Vesey street. Rapid Transit Subway Construction Company, contractor. Date of contract, June 19, 1914. Contract period, 38 months. Summary of contractor's bid, \$2,121,077.25.

Most of the working drawings and checking of shop drawings were completed during the year.

*Routes Nos. 4 & 38, Section No. 2.*— This contract section extends from about Vesey street under West Broadway and Varick street to about Beach street. Degnon Contracting Company, contractor. Date of contract, March 13, 1914. Contract period, 36 months. Summary of contractor's bid, \$3,059,522. A turnout is provided on this section for the Park Place-William Street line, which connects this line to the First Subway in Brooklyn.

The working drawings and checking of shop drawings were completed during the year.

*Routes Nos. 4 & 38, Section No. 3.*— This section extends from about Beach street under Varick street and Seventh avenue extension to about Commerce street. Degnon Contracting Company, contractor. Date of contract, December 31, 1913. Contract period, 36 months. Summary of contractor's bid, \$2,185,063.50.

Working drawings and checking of shop drawings were completed during the year.

*Routes Nos. 4 & 38, Section No. 4.*— This section extends from about Commerce street under Seventh avenue extension and Seventh avenue to a point near 16th street. United States Realty & Improvement Company, contractor. Date of contract, April 15,

1914. Contract period, 33 months. Summary of contractor's bid, \$1,837,726.50.

Working drawings and checking of shop drawings were completed during the year.

*Routes Nos. 4 & 38, Section No. 5.*— This section extends from about 16th street under Seventh avenue to about 30th street. United States Realty & Improvement Company, contractor. Date of contract, December 31, 1913. Contract period, 36 months. Summary of contractor's bid, \$2,401,306.75.

Working drawings and checking of shop drawings were completed during the year.

*Routes Nos. 4 & 38, Section No. 6.*— This section extends from about 30th street under Seventh avenue to about 43d street. Rapid Transit Subway Construction Company, contractor. Date of contract, February 24, 1914. Contract period, 36 months. Summary of contractor's bid, \$2,292,943.50.

Working drawings and checking of shop drawings were completed during the year.

Special provision is made at the Pennsylvania Railroad station, 33d street, for the interchange of traffic between the subway and the Pennsylvania Railroad. Changes have also been made in the plans to provide a connection to a hotel to be built on the east side of Seventh avenue by the railroad company.

The plans for a concourse connecting the stations of all the intersecting subways at 42d street, and entrances from the street and through the Times and Heidelberg buildings, to provide for heavy traffic at this point, form a very important part of the work on this section.

*Routes Nos. 4 & 38, Section No. 6-A.*— This contract section extends from below 43d street to above 44th street and includes the actual connection from the First Subway in Broadway, north of 44th street, with the new Seventh Avenue subway. Holbrook, Cabot & Rollins Corporation, contractor. Date of contract, August 6, 1914. Contract period, 33 months. Summary of contractor's bid, \$421,566.

All plans for this section were completed prior to 1916.

**Construction:**—*Routes Nos. 4 & 38, Section No. 1-A.*—The Seventh Avenue line divides at West Broadway and two tracks



SEVENTH AVENUE SUBWAY. CUT AND CONTRACTOR'S PLANT, PARK PLACE AND WEST BROADWAY, MANHATTAN



extend south to Battery park. The construction of Section No. 1-A includes the connection of this line with the present Battery Park loop with an addition to the South Ferry station. This connection required the removal of a portion of the present subway on State street and in Battery park. The construction work is now completed and the section is ready for station finish and track work. A portion of the reconstruction, where the southbound track joins the present track in Battery park and a similar connection in State street where northbound track is depressed to pass under the present subway, was carried out in open cut. The balance of the work was done in tunnel. A portion of the excavation required was in rock, but the greater part was in filled ground and in sand and gravel below the ground water level.

No underpinning work was necessary for the support of the buildings on State street although provision was made to prevent undue pressures against the completed subway by using 10-inch sheeting. About 435 feet of structure were constructed in tunnel.

For purposes of construction a crossover was introduced south of the Bowling Green station, so that southbound trains were discontinued from the outer track in May, 1916, while the physical connection was made between the new and old subways. Normal operation was resumed in October.

*Routes Nos. 4 & 38, Section No. 1.*—The two-track subway in Greenwich street and Battery park is now well advanced. Approximately 2,100 feet of the structure have been completed, and about 1,200 feet of the roadway have been backfilled and temporarily paved. The excavation work has been carried on beneath street decking with open-cut work in Battery park. The structure lies below ground water level for practically the entire length, and much water has been encountered. The material passed through has been filled ground, sand and gravel, with considerable rock at the southerly end of the section; the excavated material has been raised to the surface through shafts at Liberty street and at Battery park. The greater portion of the excavation not required for backfill has been transported over the elevated and subway lines of the Interborough Rapid Transit Company to 240th street and Broadway, where it has been used for filling in low land of the Interborough Company.

During the progress of the work the hulk of an old boat was uncovered in the excavation about 40 feet north of Dey street, on the west side of the cut. Only the keel and part of the ribs remained to show the nature of this craft, but it was evident from the state of the timbers that she had been burned and had probably sunk at her mooring which was then near the shore line of Manhattan Island. Her keel rested about 18 feet below the street surface, and from an examination of the supervening layers of sand it was conjectured that the ship had not sailed the waters of New York bay for several centuries.

The active work is now in progress on the construction of the station from Cortlandt to Fulton street over the tubes of the Hudson & Manhattan Railroad Company. The delivery of steel over the entire section assures the completion of the main structure within a few months.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	99
Concrete . . . . .	73
Steel delivered . . . . .	100
Steel erected . . . . .	78
Waterproofing . . . . .	77
Underpinning . . . . .	100

About 84 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 38, Section No. 2.*—The work on this section has been carried out under street decking in West Broadway and for the normal width of Varick street. In the widened portion of Varick street and in private property at Park place it has been carried out in open cut. The material penetrated has been practically all fine sand with clay deposits at various localities. Although the structure lies well below mean high water, very little water was encountered except at the low track work at Park place. Ground water was encountered near Franklin street, where the structure passed through an extensive bog, which marked the course of a former stream long ago filled in.

About 1,800 feet of the main structure are now completed,



SEVENTH AVENUE SUBWAY. PORCH COLUMNS OF ST. JOHN'S CHAPEL, SUPPORTED ON ROOF OF STRUCTURE



including the Franklin Street station. The underpinning of buildings and elevated railroad columns, which was a feature of the work, has been entirely completed.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	99
Concrete . . . . .	63
Steel delivered . . . . .	100
Steel erected . . . . .	71
Waterproofing . . . . .	70
Underpinning . . . . .	100

About 85 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 38, Section No. 3.*—Work on Section No. 3, which was well advanced in 1915 north of Canal street, has been continued to the southerly end of the section, and the main structure is now complete, ready for track work and station finish. The structure for its entire length has been backfilled, and the restoration of pavement along Varick street and intersecting streets is now practically complete. The sidewalks and curbs have been restored for the entire length of the section.

*Routes Nos. 4 & 38, Section No. 4.*—Good progress has been made during 1916 on this section. The continued difficulty of securing an adequate supply of labor has interfered considerably with the contractor's operations, but an increased force during the last half of the year has succeeded in bringing up to normal the progress for the entire year.

Construction work in Seventh avenue has been performed entirely beneath street decking through shafts which were relocated from time to time as the work advanced. In Seventh avenue extension the work has been done in open cut, the cross streets only being decked. Most of the excavation has been in sand, and considerable water has been encountered, necessitating much pumping and extreme care in the underpinning and maintenance of buildings. About 1,900 feet of subway structure have been completed, 1,200 feet have been backfilled, and the street surface is temporarily paved.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	99
Concrete . . . . .	82
Steel delivered . . . . .	100
Steel erected . . . . .	83
Waterproofing . . . . .	85
Underpinning . . . . .	99

About 90 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 38, Section No. 5.*—Excavation in earth and rock was continued throughout the year. The work was carried on under decked roadways, the material being handled through construction shafts located at convenient points. Excavation on this section has been completed.

Underpinning was continued where the safety of adjacent buildings required this precaution. The erection of the concrete and steel for the main structure has been in progress practically throughout the section and has been completed from the southerly end of the section to 30th street.

The restoration of subsurface structures has been in progress over the completed subway structure between 17th and 28th streets and has been completed within these limits with the exception of the work at the 23d and 25th street intersections. Backfilling has been completed and temporary pavement laid from 17th street to 28th street, except at several of the street intersections.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	100
Concrete . . . . .	90
Steel delivered . . . . .	100
Steel erected . . . . .	91
Waterproofing . . . . .	100
Underpinning . . . . .	100

About 90 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 38, Section No. 6.*—Excavation in earth and rock was continued throughout the year and is now about completed. Practically all work was carried on under decked roadways, the material being removed through construction shafts. Where the safety of adjacent buildings so required, underpinning and the construction of protection walls were resorted to. The steel for the subway structure has been erected, with the exception of that for the 32d street sub-passageway to the hotel which is to be erected at this point, and for the east side of the structure between 32d and 33d streets.

Concrete has been placed, except for the points where steel has not as yet been erected and from 31st street to the southerly end of the section. Restoration of subsurface structures is in progress between 31st and 33d streets, and is practically completed from 33d street to the northerly end of the section. Backfilling has been completed and temporary pavements laid from 34th street to the northerly end of the section.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	100
Concrete . . . . .	80
Steel delivered . . . . .	95
Steel erected . . . . .	80
Waterproofing . . . . .	78
Underpinning . . . . .	99

About 80 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 38, Section No. 6-A.*—Work on the main subway structure, backfilling and the restoration of pavement were completed during 1915.

The only work done during 1916 consisted of repairs to defective pavements.

In the following tables is given the work done under the principal items of construction on each section of the Seventh Avenue subway, Routes Nos. 4 & 38, and the total value of work estimated on each of these sections, from the beginning of construction to December 31, 1916:

WORK DONE UNDER THE PRINCIPAL ITEMS OF EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

ITEM	Unit	Sec. 1-A	Sec. 1	Sec. 2	Sec. 3	Sec. 4	Sec. 5	Sec. 6	Sec. 6-A	Total
<i>Subway construction</i>										
Earth excavation above M. F. W.	Cu. yds.	3,987	55,143	115,652	145,288	214,385	135,737	119,958	5,561	795,711
Earth excavation below M. H. W.	Cu. yds.	8,445	57,857	122,202	127,083	38,721	82,721	130,920	5,334	354,911
Rock excavation	Cu. yds.	3,395	20,008	2,838	150	1,397	82,964	1,960	1,934	244,168
Underpinning buildings less than 7 stories	Lin. frt. ft.	.....	3,607	245	742	1,667	1,960	.....	.....	12,736
Underpinning buildings 7 to 12 stories	Lin. frt. ft.	.....	269	80	.....	1,101	40	.....	.....	685
Underpinning buildings over 12 stories	Lin. frt. ft.	.....	.....	50	.....	.....	.....	.....	.....	50
Maintaining, protecting and securing buildings	Lin. frt. ft.	.....	.....	62	2,219	453	489	52	15	3,572
Concrete	Cu. yds.	0.014	21,281	26,938	50,607	36,001	27,928	27,200	2,787	198,766
Brick masonry	Cu. yds.	.....	351	201	53	517	830	930	.....	2,885
Rubble stone masonry	Cu. yds.	.....	187	.....	.....	.....	.....	110	.....	145
Waterproofing	Sq. yds.	11,975	44,088	44,446	72,776	57,817	36,397	29,198	5,079	298,786
Brick in asphalt mastic	Cu. yds.	1,389	4,210	6,444	8,611	5,201	2,000	872	.....	28,727
Tunnel ducts	Duct ft.	.....	36,390	64,280	334,240	29,664	137,490	143,492	26,151	770,707
Steel delivered	Tons	830	3,529	7,083	5,723	5,600	3,308	5,042	686	31,081
Steel erected	Tons	823	2,815	5,519	5,640	4,850	8,020	4,055	686	27,408
Street surface restored	Sq. yds.	2,596	993	257	15,959	785	2,400	3,165	3,262	29,417
Street surface electric railroad in final position (single track)	Lin. ft.	175	100	2,116	650	2,209	4,192	4,357	889	14,688
By-passing pipes upon or below surface (all sizes)	Lin. ft.	538	5,229	5,385	4,075	2,900	7,872	6,470	676	33,745
By-passing pipes on trestle	Lin. ft.	.....	1,871	180	835	1,008	1,137	1,461	.....	6,492
Trestle for by-passing pipes	Lin. ft.	.....	1,700	160	745	1,780	1,088	1,443	.....	5,906
<i>Sewer construction</i>										
Earth excavation	Cu. yds.	50	7,467	5,730	9,575	5,500	49,580	4,200	484	82,586
Rock excavation	Cu. yds.	.....	24	.....	.....	.....	15,765	2,375	460	18,624
Tunnel excavation	Cu. yds.	.....	.....	.....	.....	.....	515	.....	.....	515
Concrete masonry	Cu. yds.	10	106	68	36	.....	1,210	310	31	1,771
Sewers constructed, all sizes	Lin. ft.	92	5,000	1,000	7,200	3,000	11,928	4,586	494	33,270

TOTAL VALUE OF WORK ESTIMATED ON EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

SECTION	Subway construction	Sewer construction	Total
1-A.....	\$417,442 05	\$535 70	\$417,977 75
1.....	1,692,319 45	66,622 70	1,758,942 15
2.....	2,517,417 00	38,501 00	2,555,918 00
3.....	2,099,105 63	70,064 45	2,169,170 08
4.....	1,581,893 40	32,059 50	1,613,952 90
5.....	1,647,288 91	521,686 27	2,168,975 18
6.....	1,880,727 65	51,439 25	1,912,166 90
6-A.....	433,264 61	16,202 90	449,467 51

**Sewer Work:**— *Routes Nos. 4 & 38, Section No. 1-A.*— Of the total sewer construction involved, amounting to 92 linear feet on this section, 48 feet were built during the year, completing the entire work. Record drawings have been started and information is being obtained in the field to complete them.

*Routes Nos. 4 & 38, Section No. 1.*— During the year 2,800 linear feet of sewers were built, making a total of 5,000 linear feet to December 31, 1916, or 80 per cent of the entire sewer work on this section.

*Routes Nos. 4 & 38, Section No. 2.*— Of the entire sewer work on this section, 22 per cent has been completed, 1,000 linear feet having been built during the year, making a total of 5,000 linear feet to December 31, 1916.

The 24-inch vitrified pipe sewer on West Broadway from Duane street to Thomas street was changed to a 15-inch vitrified pipe and the flow reversed, taking it into the Thomas Street sewer. This was done at the request of the Manhattan Sewer Bureau to relieve the Duane Street system.

*Routes Nos. 4 & 38, Section No. 3.*— The entire sewer work has been completed on this section, 2,340 linear feet having been built during the year, out of a total of 7,200 linear feet. Record drawings have been started and information is being obtained to complete them.

*Routes Nos. 4 & 38, Section No. 4.*— During the year 1,700 linear feet of sewers were built, making this section 63 per cent completed, or a total of 3,000 feet to December 31, 1916.

*Routes Nos. 4 & 38, Section No. 5.*— During the year 4,340 linear feet of sewers were built, making a total of 11,955 linear

feet to December 31, 1916, or 95 per cent of the entire sewer work on this section.

Five thousand three hundred and fifty-one linear feet of the total to December 31, 1916, represent the 30th street off-line sewer. Record drawings for this 30th street sewer have been completed, and the sewer turned over to the President of the Borough of Manhattan for future maintenance and control.

*Routes Nos. 4 & 38, Section No. 6.*—75 per cent of the sewer work on this section is completed; 2,560 linear feet built during the year, or a total of 5,019 linear feet to December 31, 1916.

*Routes Nos. 4 & 38, Section No. 6-A.*—Sewer work on this section was completed during the year 1915, and record drawings have since been completed, and the sewers turned over to the President of the Borough of Manhattan for future maintenance and control.

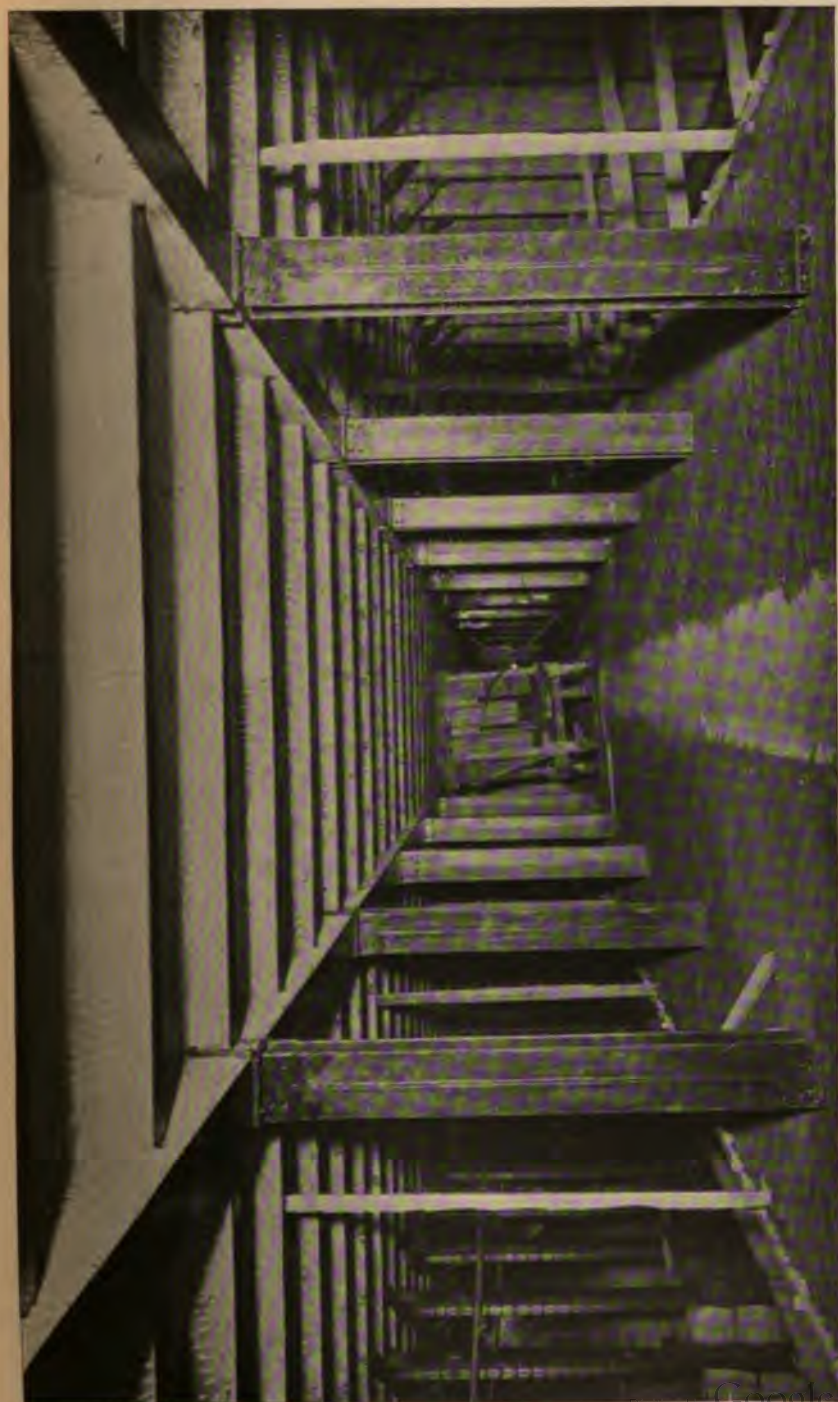
### *Contracts for Station Finish and Track Installation*

#### *Routes Nos. 4 & 38*

*Station Finish.*—As previously explained in the section of the report treating of station finish work for Route No. 43, a contract was awarded to Louis Wechsler for station finish work on Sections Nos. 5, 6 and 6-A of Routes Nos. 4 & 38, included with that for Sections Nos. 1 and 2 of Route No. 43, and work under this contract is expected to be begun at an early date.

*Track Installation.*—A contract for the installation of tracks for Sections Nos. 1-A and 1 to 6-A of Routes Nos. 4 & 38 was let to Engel & Hevenor on October 18, 1916. Contract price, \$229,440.50. In this contract price is also included the track installation work for Sections Nos. 1 to 3 of Route No. 48, and for that portion of Section No. 3 of Route No. 33 to be operated by the Interborough Rapid Transit Company, the track installation on the remaining portion, to be operated by the New York Municipal Railway Corporation, having been let to the T. H. Reynolds Contracting Company, as later referred to.

Surveys are now being made to obtain the information required in giving the lines and grades of the tracks. Requisition has been made for part of the track materials which are to be furnished by the Commission's material contractors, and the deliveries are now being made.



SEVENTH AVENUE SUBWAY. SOUTHBOUND ISLAND PLATFORM, TIMES SQUARE STATION DURING CONSTRUCTION



## PARK PLACE, WILLIAM AND CLARK STREET SUBWAY

**Plans:**— This is a two-track subway connection from the Seventh Avenue subway to the First Subway in Brooklyn. It thus doubles the Interborough Rapid Transit Company's accommodations for Brooklyn traffic to and from Manhattan. It leaves the Seventh Avenue subway by depressed tracks to avoid grade crossings and extends under Park place, the General Post-office, Beekman street, William street and Old Slip, to and under the East river, thence under Clark and Fulton streets to a connection with the First Subway at a point east of the Borough Hall station near Willoughby street. This line includes Sections Nos. 1, 2, and 3 of Route No. 48, and also part of Section No. 3 of Route No. 33, which latter section will be treated under the section of this report, which later follows, treating of the New York Municipal lines.

*Route No. 48, Section No. 1.*— Extends from about West Broadway, under Park place, the General Post-office and Beekman street, to about William street. Frederick L. Cranford, Inc., contractor. Date of contract, December 7, 1914. Contract period, 28 months. Summary of contractor's bid, \$1,571,363.50.

All the construction drawings for this section have been issued and the checking of shop drawings completed. Two modifying agreements have been executed in connection with this contract. One provides for the construction under and supporting the Post-office; the other for the underpinning of the Broadway subway of the New York Municipal Railway Corporation, in connection with building the subway under it.

*Route No. 48, Section No. 2.*— Extends from about Beekman street and William street, under private property, and William street to Pearl street. Contractor, Smith, Hauser & MacIsaac, Inc. Date of contract, December 7, 1914. Contract period, 28 months. Summary of contractor's bid, \$2,254,670.

All the construction drawings for this section have been issued, and the checking of shop drawings, except those for station entrances, completed. The plans for station entrances, on account of the narrowness of William street, the congestion of traffic and varying conditions existing at different abutting buildings, may, in some instances, require modification.

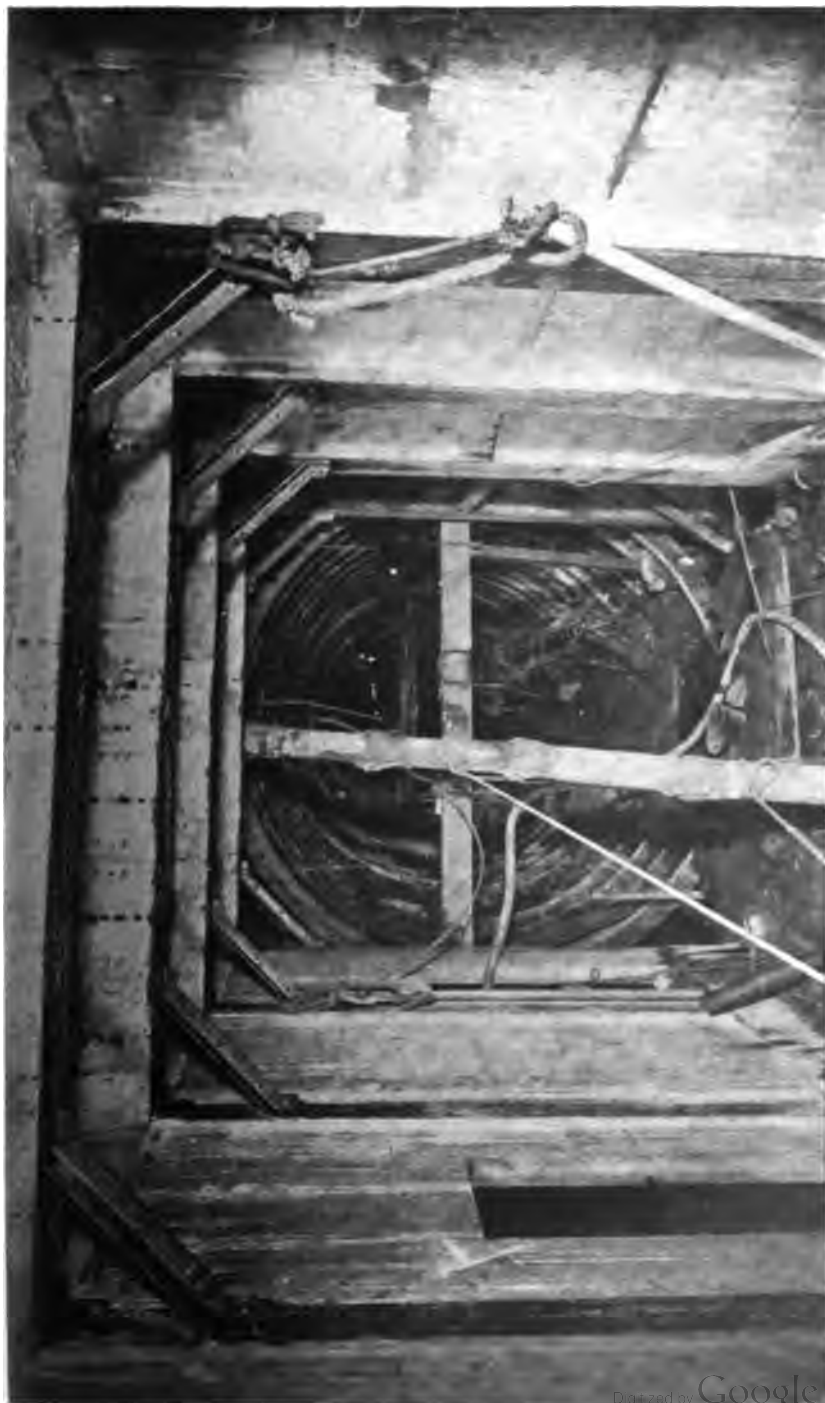
*Route No. 48, Section No. 3.*— This line extends under Old Slip, the East river, Clark and Fulton streets, to Liberty square in Brooklyn. This section is under construction by the Flinn-O'Rourke Company, Incorporated. Date of contract, August 6, 1914. Contract period, 42 months. Summary of contractor's bid, \$6,469,915.25. The contract for this section was let in combination with that for the New York Municipal Railway's East River crossing, the Whitehall-Montague Street tunnel route. The tubes under the river are single-track cast-iron tubes, 17½ feet in diameter.

Practically all working drawings have been issued, except for minor details, and all shop drawings filed.

The design for the pump and feeder chambers has been changed from cast iron to steel and concrete construction.

**Construction:**— *Route No. 48, Section No. 1.*— This section, although only about 1,645 feet long, is composed of a relatively expensive structure. Being a crosstown line, the location necessitated avoidance of the north and south subways, causing construction well below mean high water. In passing beneath the Broadway structure a depth of 60 feet below the street surface is reached. Sharp grades from this low point lead to the station at Church street and to William street. Escalators will be provided for passengers using the station at Park place and Church street. Active work has been in progress throughout the year on the entire section, 78 per cent of the excavation has been completed and the subway structure is well advanced. Where the work extends well below ground water level considerable pumping has been necessary. The safety of adjacent buildings and the completed subway structures has been guaranteed by the extensive use of concrete steel piles in the underpinning work.

Under a special agreement between the contractor and the Commission, the design of the subway passing beneath the U. S. Court House and Post-office has been so modified as to incorporate in the finished structure much of the underpinning work. In the tunnel portion through Beekman street concrete steel piles below the ground water level have been used extensively during the progress of the work and are incorporated in the side walls of the tunnels. This portion of the structure, including the



PARK PLACE, WILLIAM AND CLARK STREET SURWAY. JUNCTION OF RIVER TUNNEL AND LAND APPROACH IN MANHATTAN





PARK PLACE, WILLIAM AND CLARK STREET SUBWAY. SPECIAL UNDERPINNING CONSTRUCTION UNDER  
POST OFFICE BUILDING



fan chamber and emergency exit near William street, has been practically completed.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	82
Concrete . . . . .	50
Steel delivered . . . . .	99
Steel erected . . . . .	70
Waterproofing . . . . .	40
Underpinning . . . . .	100
Construction within limits of Post-office building . . . . .	61
Construction under Broadway subway. . . . .	68

About 78 per cent of the total estimated value of the work is completed.

*Route No. 48, Section No. 2.*—The line through William street extending from Beekman street to Pearl street is a two-track subway structure constructed entirely beneath the street decking. The structure through William street is near the surface but extends considerably below ground water level at Maiden lane and at Pearl street. On account of the narrowness of the street the structure occupies practically the entire space from building line to building line.

The excavation for the entire section has been practically completed, and much of the concrete steel structure is now in place. The underpinning work which has been the main feature of this section has been practically completed. On account of the number of large office buildings, the foundations of which were not built to provide for subway construction within the street limits, extensive underpinning has been necessary. The rock floor of Manhattan Island is well below the street surface of William street, and the treacherous nature of the overlying material has necessitated extreme care in the underpinning work. At the northerly end of the section where the subgrade is near the main high-water level, many of the building foundations have been extended to depth by excavating and concreting in pits. Most of the underpinning work, however, has been carried out

by the use of pits to ground water level where concrete steel piles have been put in service. In all cases where piles have been used the load has been carefully estimated and the pile subjected to a test load well in excess of the figured load. Short steel columns have been introduced between the head of the pile and the foundation before the jack pressures were released so that the ultimate settlement has been reduced to a minimum. On account of many of the former foundations having extended into the street, it has been necessary to drive temporary piles for their support during the permanent underpinning of such foundations.

The material penetrated has been mostly sand of a varying degree of fineness, with occasional beds of clay. Good progress has been made in the underpinning and excavation work by the extensive use of open drains, so that the ground water level has been materially reduced in advance of the work and much pumping has been saved. Protection of the subway from external pressure below the water level has been given in many places by the use of steel sheet piling and concrete wells near the building line.

Over one-third of the section subsurface restoration is nearly completed, and the work of backfilling and temporary paving has been done. All steel except for the station entrances has been delivered, and the entire section will soon be ready for track laying and station finish work.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	97
Concrete . . . . .	77
Steel delivered . . . . .	98
Steel erected . . . . .	78
Waterproofing . . . . .	83
Underpinning . . . . .	100

About 88 per cent of the total estimated value of the work is completed.

*Route No. 48, Section No. 3.*—Shield operations, on the Manhattan side of the river, were in progress throughout the year on the river headings from the bulkhead line eastward to the



PARK PLACE, WILLIAM AND CLARK STREET SUBWAY. GROUT PLATFORM. MUCK CARS, ETC., IN UNDER-  
RIVER TUNNEL





PARK PLACE, WILLIAM AND CLARK STREET SUBWAY. SAFETY SCREEN AND CAST-IRON LINING, UNDER-  
RIVER TUNNEL



12. 1. 1900

center of the river where they met the headings from the Brooklyn side of the river. The land headings were completed the previous year. The material passed through was partly rock and partly earth, all earth and finally all rock. Compressed air has been employed throughout. The north headings met on November 28, while the south headings met on December 9. The ventilation shaft at Front street has been completely excavated, and the placing of the permanent structure is in progress.

On the Brooklyn side of the river, tunneling operations were in progress throughout the year in both directions from the shaft located at the foot of Clark street. Four shields were used for the four headings. Landward, the shields have reached the end of the section and are continuing into Section No. 3 of Route No. 33. Riverward, the shields have passed through the soft ground and have entered the reef in the middle of the river where the headings connected with the Manhattan headings. In the river headings compressed air has been employed throughout with a maximum pressure of  $37\frac{1}{2}$  lbs. In the land headings compressed air was employed until the bottom of the tunnel reached ground water elevation midway between Hicks and Henry streets. The station shaft has been excavated to subgrade, and a drift leading to the station has been tunneled through. Excavation is in progress between the two tubes where an island platform will be located.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	99
Concrete . . . . .	11.1
Steel and cast iron delivered . . . . .	90.3
Steel and cast iron erected . . . . .	83

About 82 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of construction on each section of the Park place, William and Clark Street subway, Route No. 48, and the total

value of work estimated, from the beginning of construction to December 31, 1916:

ITEM	Unit	Section 1	Section 2	Section 3	Total
<i>Subway construction</i>					
Earth excavation above M. H. W. ....	Cu. yds. ....	47,654	79,136	13,276	140,066
Earth excavation below M. H. W. ....	Cu. yds. ....	24,927	28,930	6,689	60,546
Rock excavation .....	Cu. yds. ....			1,580	1,530
Underpinning buildings less than 7 stories .....	Lin. frt. ft. ....	1,279	1,850		3,129
Underpinning buildings 7 to 12 stories ..	Lin. frt. ft. ....	743	985	310	2,038
Underpinning buildings over 12 stories ..	Lin. frt. ft. ....		390		390
Maintaining, protecting and securing buildings .....	Lin. frt. ft. ....		780		780
Tunnel excavation .....	Cu. yds. ....	10,982		116,686	127,668
Concrete .....	Cu. yds. ....	13,522	16,788	3,753	34,063
Waterproofing .....	Sq. yds. ....	8,602	29,491	982	39,075
Brick in asphalt mastic .....	Cu. yds. ....	1,382	3,028	39	4,449
Steel delivered .....	Tons .....	2,945	3,011	2,535	8,491
Steel erected .....	Tons .....	2,123	2,521	2,153	6,797
Street surface restored .....	Sq. yds. ....	113	526	130	769
By-passing pipes upon or below surface (all sizes) .....	Lin. ft. ....	1,984	5,019	1,082	8,085
By-passing pipes on trestle .....	Lin. ft. ....		536		536
Trestle for by-passing pipes .....	Lin. ft. ....		594		594
<i>Sewer construction</i>					
Earth excavation .....	Cu. yds. ....	450	5,750	282	6,482
Concrete masonry .....	Cu. yds. ....	69	110	5	184
Sewers constructed, all sizes .....	Lin. ft. ....	400	3,470		3,870

	Tunnel and subway construction	Sewer construction
Section 1, total value of work completed, as estimated .....	\$1,197,346 77	\$5,075 70
Section 2, total value of work completed, as estimated .....	1,890,844 54	69,159 51
Section 3, total value of work completed, as estimated .....	5,340,778 97	4,611 00

**Sewer Work:—Route No. 48, Section No. 1.**—During the year there were constructed 320 linear feet of sewer, making a total of 400 feet to December 31, 1916, or 27 per cent of the sewer construction on this section.

A change in the arrangement of sewers from that shown on the contract drawings was made at Beekman street west of William street. The flow was carried along the north side of William street through two 14-inch cast-iron pipes, one above the other, between the subway wall and the building line, instead of through one 20-inch vitrified pipe on the south side as shown on the contract plans. This change was made to avoid interference with a boiler plant and lifts in front of Nos. 19 and 21 Beekman street, and the sewer was omitted in front of this property.



PARK PLACE, WILLIAM AND CLARK STREET SUBWAY. READING PLUMB LINE, LEAD RODS, ETC., PREPARATORY TO ADVANCING EXCAVATION SHIELD IN UNDER-RIVER TUNNEL CONSTRUCTION





PARK PLACE, WILLIAM AND CLARK STREET SUBWAY. TUNNEL EXCAVATION SHIELD BULKHEADED AND TIMBERED DURING TEMPORARY CESSATION OF WORK



*Route No. 48, Section No. 2.*— On this section 2,780 linear feet of sewers were built during the year, or 63 per cent of the work completed, making a total of 3,000 linear feet to December 31, 1916.

*Route No. 48, Section No. 3.*— Record drawings of sewers constructed on this section are to be prepared. The only sewer work done during the year, and now completed was in connection with the sewer on Old Slip, at the westerly end of the section. The total length of sewers completed amounted to 235 linear feet.

**Track Installation:**— *Route No. 48, Sections Nos. 1 to 3.*— A contract for the installation of tracks for Sections Nos. 1 to 3 of Route No. 48 was let to Engel & Hevenor, on October 18, 1916. Contract price, \$229,440.50. In this contract price is also included the track installation work for Sections Nos. 1-A and 1 to 6-A of Routes Nos. 4 & 38, and for that portion of Section No. 3 of Route No. 33 to be operated by the Interborough Rapid Transit Company, the track installation on the remaining portion, to be operated by the New York Municipal Railway Corporation, having been let to the T. H. Reynolds Contracting Company, as later referred to.

Surveys are now being made to obtain the information required in giving the lines and grades of the tracks. Requisition has been made for part of the track materials which are to be furnished by the Commission's material contractors, and the deliveries are now being made.

#### EASTERN PARKWAY LINE AND EXTENSIONS

**Plans:**— The Eastern Parkway line, known as Route No. 12, is a four-track extension of the First Subway in Brooklyn. It extends from Atlantic avenue under Flatbush avenue and Eastern parkway to Buffalo avenue. It is divided into four sections, Nos. 1, 1-A, 2 and 3. The Nostrand avenue branch of this line has two tracks and extends in subway from Eastern parkway to Flatbush avenue. It is known as Route No. 29, and is divided for construction purposes into two sections, Nos. 1 and 2. The Livonia Avenue branch line, known as Route No. 31, is a three-track elevated line. It will extend easterly from Buffalo avenue

and Eastern parkway via East 98th street and Livonia avenue to New Lots avenue. An elevated extension known as Route No. 57 is also proposed at Utica avenue from Eastern parkway to Flatbush avenue. It is proposed to build Route No. 57 as an assessment proposition, the cost to be assessed on the property benefited by its construction. The Brighton Beach connection between the Fourth Avenue subway and the Brighton Beach line extends from St. Felix street and Fulton street under St. Felix street, the Long Island Railroad station and Flatbush avenue to the Brighton Beach line. For convenience parts of this New York Municipal line have been included with contracts for Interborough Rapid Transit Sections Nos. 1 and 1-A of Route No. 12. Sections Nos. 1-B and 2-A of Route No. 12 contain New York Municipal tracks exclusively and will be described later.

*Route No. 12, Section No. 1.*— This is divided into two parts. The Brighton Beach connection, extending from Fulton street under St. Felix street and the Long Island Railroad Atlantic Avenue station to and under Flatbush avenue to a point south of St. Marks avenue, is included in Section No. 1 of this route; except that portion of the line under the Railroad Company's station property, which is included in a separate contract section known as Route No. 12, Section No. 1-B. The other portion is a four-track subway extending from the end of the existing subway at Flatbush and Atlantic avenues, under Flatbush avenue to about St. Marks avenue. The contractor for Section No. 1 of Route No. 12 is the Cranford Company, to whom it was let on July 16, 1914. Contract period, 30 months. Summary of contractor's bid, \$2,195,296.25.

On February 24, 1916, the Public Service Commission approved of change of plan for the structure at Fulton and St. Felix streets to provide for a future connection between the Fulton Street Elevated line and the Fourth Avenue subway.

These plans were completed during the year.

All working drawings for this section have been completed and shop drawings filed.

*Route No. 12, Section No. 1-A.*— This section includes a four-track subway for the Interborough Company, and a two-track line for the New York Municipal Railway Corporation. It





extends under Flatbush avenue from about St. Marks avenue to Prospect Park plaza. The Cranford Company, contractor. Date of contract, May 4, 1914. Contract period, 30 months. Summary of contractor's bid, \$2,225,519.25.

All working drawings have been completed for this section, and shop drawings filed.

*Route No. 12, Section No. 2.*—This section is a four-track double-deck structure and extends under Eastern parkway from Prospect Park plaza to a point east of Nostrand avenue. Inter-Continental Construction Corporation, contractor. Date of contract, June 15, 1915. Contract period, 22 months. Summary of contractor's bid, \$2,744,263. The east-bound tracks are generally on the upper level, and the west-bound on the lower level. Double-deck construction is used to reduce width of structure to a minimum, thereby saving the trees in the parkway. The arrangement of having one-way traffic on each level is advantageous for the connections with the branch lines, and also is a convenience to the prevailing traffic. The prevailing east-bound traffic will no doubt be exit traffic coming from Manhattan, and the prevailing west-bound traffic entrance traffic to Manhattan. This will result in a short climb and a longer descent for the prevailing traffic.

Working drawings for the entire section have been issued and shop drawings filed.

After the contract for this section was awarded, the New York Municipal Railway Corporation proposed to build a station on the Brighton Beach line at Eastern parkway, with a connection to the Interborough Company's Franklin Avenue station of Route No. 12. This plan was approved by the Commission, and necessitated changes in the plans for the Franklin Avenue station and the adjacent structure. A turnout is provided on this section for connection with Route No. 29, in Nostrand avenue.

*Route No. 12, Section No. 3.*—A four-track structure under Eastern parkway extending from a point east of Nostrand avenue to a point near Buffalo avenue, extending thence under private property towards East 98th street near President street, where it emerges from the ground to make connection with the elevated structure of the Livonia Avenue line. Provision is made for

extending the subway on Eastern parkway beyond Buffalo avenue. Provision is also made for a connection with the proposed line on Utica avenue. A siding is provided between Utica and Buffalo avenues to provide for future extensions and for operation. Rodgers & Hagerty, Inc., contractor. Date of contract, September 25, 1915. Contract period, 20 months. Summary of contractor's bid, \$2,170,652.50.

This structure, the same as that for Section No. 2, is double decked, to avoid destroying trees along the parkway.

At the end of the route where the construction changes from subway to elevated, the structure passes through private property in the block bounded by Eastern Parkway, Ralph, East New York and Buffalo avenues. By resolution of the Board of Estimate and Apportionment, the property in this block was to be acquired for park purposes as an addition to Lincoln Terrace park. As the route was located within the proposed park it was designed as an ornamental reinforced concrete structure. At the suggestion of the Brooklyn Park Department, three archways were provided underneath the structure between Union and President streets to accommodate a proposed pathway at that point.

After the contract for this section was let, however, it was decided to acquire for park purposes, only that portion of the property lying west of the subway structure, and a new street designated as Portal street was laid out running alongside of the easterly wall of the structure from Eastern parkway to East New York avenue. In view of this change, the archways were eliminated and reinforced concrete retaining walls were used, a material saving in construction resulting. On account of the required ornamental appearance of the structure, the expansion joints were located at the sides of the pilasters, and the details are such as to make the vertical gaps invisible from the outside. Sheet lead was provided at the expansion joints for closing the gaps and making the joints watertight.

All construction drawings have been completed and shop drawings checked for this section.

*Route No. 31.*— This is an elevated extension of the Eastern Parkway route to be constructed as a two-track line, with provision for a future third track. It begins at a point on private

property east of Buffalo avenue, and extends over East 98th street and Livonia avenue to New Lots avenue in the Borough of Brooklyn. The contract drawings and the contract and specifications are completed, and the preparation of working drawings is under way.

On May 23, 1916, bids were opened for the construction of this line, but on account of the high prices proposed all bids were rejected. The contract is now being readvertised.

A yard for the storage of cars along this route will undoubtedly be required. Preliminary studies of such a yard have been made, but the location thereof has not yet been finally determined upon.

*Route No. 29, Section No. 1.*— This is a two-track subway, extending under Nostrand avenue from Eastern parkway to a point south of Church avenue. Contractor, Newman & Carey Company, Inc. Date of contract, August 30, 1915. Contract period, 21 months. Summary of contractor's bid, \$2,073,303.70.

Working drawings have been completed, and shop drawings have been checked for this section.

*Route No. 29, Section No. 2.*— This is a two-track subway extending from a point south of Church avenue, under Nostrand avenue, to the intersection of Flatbush avenue and Nostrand avenue. Dock Contractor Company, contractor. Date of contract, October 8, 1915. Contract period, 21 months. Summary of contractor's bid, \$1,602,730.70.

Working drawings have been completed and shop drawings checked for this section.

*Utica Avenue Line.*— This is a proposed three-track elevated railroad extension of the Eastern Parkway subway. It extends along Utica avenue from Eastern parkway to Flatbush avenue. The Commission has been requested to build this line and assess its cost on the property benefited. The work has been divided into two sections, namely Route No. 57, Sections Nos. 1 and 2.

*Route No. 57, Section No. 1.*— Extends from Eastern parkway and Utica avenue along Utica avenue to about Clarendon road. It consists of a two-track subway connection with the Eastern Parkway subway joining to a three-track elevated line on Utica avenue.

*Route No. 57, Section No. 2.*— Extends along Utica avenue from about Clarendon road to Flatbush avenue. It is a three-track elevated railway throughout.

Detail plans to serve as a basis for determining the amount of the assessment to pay the cost of constructing this line have been made. The territory served by this route has been mapped, divided into districts, and the amount proposed to be raised in each district has been determined.

**Construction:**— *Route No. 12, Section No. 1.*— The work on this section has been confined for the greater part of the year to Flatbush avenue. The work in Fulton street and St. Felix street is now well under way. The underpinning work has been practically completed along Flatbush avenue, at the Hanson Place Methodist Episcopal Church, and at the Academy of Music. It is the contractor's intention to maintain, protect, and secure the balance of the buildings on St. Felix street by the use of steel sheet piling driven in connection with the main excavation. Underpinning operations are now in progress on Fulton street. The elevated railroad columns on Flatbush avenue have been temporarily supported, and work is now in progress for the support of those on Fulton street, endangered by the construction work.

The structure is now practically built from Sixth avenue to the south end of the section and backfill has been placed over this portion of the work. The structure has also been completed from Sixth avenue north to a point about midway between Dean and Bergen streets. The contractor's efforts are now confined to the work on St. Felix street, and to the northerly end of the structure in Flatbush avenue where the connection is to be made to the existing structure at the Atlantic Avenue station.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	62
Concrete . . . . .	36
Steel delivered . . . . .	85
Steel erected . . . . .	42
Waterproofing . . . . .	18
Underpinning . . . . .	72



EASTERN PARKWAY SUBWAY. STEAM SHOVEL OPERATING IN TIMBERED CUT



24

25

26

About 58 per cent of the total estimated value of the work is completed.

*Route No. 12, Section No. 1-A.*—The work on this section is carried on by the contractor for Section No. 1. The main structure is now practically completed for the entire length from Prospect place to the plaza, with the exception of the closing portion near Eighth avenue. Backfilling has been completed from the north end of the section to Seventh avenue, and from Plaza street to the south end of the section. Subsurface restoration and backfilling are now in progress over the balance of the completed structure.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	100
Concrete . . . . .	97
Steel delivered . . . . .	100
Steel erected . . . . .	100
Waterproofing . . . . .	97
Underpinning . . . . .	100

About 90 per cent of the total estimated value of the work is completed.

*Route No. 12, Section No. 2.*—Work has been in progress on this section throughout the entire year. Although much of the excavation is yet uncompleted, a large portion of the work has been opened up and the structure is completed as fast as the steel is delivered.

Excavation has been in progress at various places along the line and largely completed from about 250 feet west of Bedford avenue to the east end of the section, and considerable progress has been made for a distance of 450 feet at Underhill avenue.

The construction of the subway has been considerably hindered by the delay in receiving steel. The concrete has been placed, however, in the floor and sidewalls of the Nostrand Avenue station, and in the east approach to the same. Further work has been done in completing the floor of the Franklin Avenue station, and the floor and side walls of the east approach. Steel is also

erected in the Franklin Avenue station. About 350 feet of structure is completed near the east end of the section. Better progress is assured on this section now that the steel deliveries can be depended upon.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	48
Concrete . . . . .	12
Steel delivered . . . . .	68
Steel erected . . . . .	18
Waterproofing . . . . .	9

About 34 per cent of the total estimated value of the work is completed.

*Route No. 12, Section No. 3.*— Much of the excavated material has been taken out throughout the entire length of the section, and subgrade has been reached from New York avenue to Albany avenue.

About 400 linear feet of structure have been completed extending east from Brooklyn avenue. The steel has been erected from Brooklyn avenue for about 500 feet to the west. A concrete floor has been placed from the completed portion to the west end of the section.

Active work is now in progress in excavating, erecting steel, and concreting. The greater portion of the concrete is being placed from a central mixing plant located on private property near Utica avenue and distributed by use of motor trucks.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	66
Concrete . . . . .	12
Steel delivered . . . . .	43
Steel erected . . . . .	15
Waterproofing . . . . .	10

About 35 per cent of the total estimated value of the work is completed.



EASTERN PARKWAY SUBWAY. METHOD OF TIMBERING CUT



The following tables give the work done under the principal items of construction, and the total value of work on each section of Route No. 12, from the beginning of construction to December 31, 1916:

WORK DONE UNDER THE PRINCIPAL ITEMS OF EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

ITEM	Unit	Section 1	Section 1-A	Section 2	Section 3	Total
<i>Subway construction</i>						
Earth excavation above M. H. W.	Cu. yds. . . .	178,048	305,770	281,100	322,480	1,087,398
Underpinning buildings less than seven stories . . . . .	Lin. frt. ft. . .	3,072	1,956	.....	.....	5,028
Maintaining, protecting and securing buildings . . . . .	Lin. frt. ft. . . .	270	299	.....	.....	569
Concrete . . . . .	Cu. yds. . . . .	18,203	48,878	10,485	11,413	88,979
Waterproofing . . . . .	Sq. yds. . . . .	7,656	20,166	4,109	3,300	35,231
Tunnel ducts . . . . .	Duct ft. . . . .	101,512	216,895	.....	.....	318,407
Steel delivered . . . . .	Tons. . . . .	5,793	8,849	9,291	5,750	29,683
Steel erected . . . . .	Tons. . . . .	2,879	8,837	2,330	1,884	15,930
By-passing pipes upon or below surface (all sizes) . . . . .	Lin. ft. . . . .	5,319	2,986	2,900	.....	11,205
By-passing pipes on trestle . . . . .	Lin. ft. . . . .	732	.....	91	.....	823
Trestle for by-passing pipes . . . . .	Lin. ft. . . . .	.....	200	36	.....	236
<i>Sewer construction</i>						
Earth excavation . . . . .	Cu. yds. . . . .	5,290	3,216	.....	2,940	11,446
Concrete masonry . . . . .	Cu. yds. . . . .	440	66	.....	.....	506
Sewers constructed, all sizes . . . . .	Lin. ft. . . . .	6,180	2,620	.....	680	9,480

TOTAL VALUE OF WORK ESTIMATED ON EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

SECTION	Subway construction	Sewer construction	Total
1. . . . .	\$1,258,761 81	\$6,973 65	\$1,265,735 46
1-A. . . . .	1,951,584 34	30,143 53	1,981,727 87
2. . . . .	915,677 35	.....	915,677 35
3. . . . .	765,036 00	10,513 00	775,549 00

*Route No. 29, Section No. 1.*—Work on this section, which was started in the latter part of 1915, has progressed favorably. The contractor for this section, however, has not been free from labor troubles common to contractors on other sections of subway work. Work has consisted in excavation, erection of steel, concreting, etc.

The excavated material is entirely sand, gravel and boulders, with occasional beds of clay. Between Eastern parkway and Lefferts avenue work has been prosecuted largely by the use of clam shell buckets swung from stiff leg derricks which are mounted on movable platforms. These platforms travel on the

surface and are kept just in advance of the excavation, which is carried to subgrade. South from Lefferts avenue the material is handled by cableways, buckets being loaded by hand. Working north from Clarkson avenue a Keystone grader is used for excavating and loading buckets. Excavation is practically completed from Eastern parkway to Union street, from President street to Crown street, from Malbone street to Lefferts avenue, and from Robinson street to Linden avenue.

Between Eastern parkway and Union street the structure is practically complete, and from Clarkson avenue to Lenox road steel has been erected, and floors and most of the walls have been concreted. The concrete is mixed at a central mixing plant and is hauled to the work in trucks. Considerable stone is found in the work suitable for crushing.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	41
Concrete . . . . .	12
Steel delivered . . . . .	69
Steel erected . . . . .	19
Waterproofing . . . . .	2
Underpinning . . . . .	59

About 31 per cent of the total estimated value of the work is completed.

*Route No. 29, Section No. 2.*—Work on this section having started in November, 1915, very little progress was made until the beginning of the year. Excavation started near Eastern parkway, and is now practically complete as far south as Newkirk avenue, and work is now in progress in various localities south of Newkirk avenue. For excavating on this section the contractor uses a number of traveling conveyors, or hoist buckets, loaded by hand, which are dumped into hoppers and moved from time to time as the work progresses. The material is hauled away for disposal by horse-drawn trucks to a dump on Farragut road east of Albany avenue. As fast as the excavation is completed on one side of the street to subgrade the excavating

machine is moved to another locality and the excavation is decked. The material encountered so far is composed of sand and gravel and lies practically all above mean high water. No ground water has been encountered on this section.

Erection of steel and concreting, which is carried on entirely beneath the decking, has been completed from the north end of the section to Beverly road, and from Canarsie lane to Clarendon road. The concrete invert and the erection of steel have been practically completed as far south as Avenue D.

The work of subsurface restoration, backfilling, and temporary paving is in progress from the northerly end of the section to Tilden avenue.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	62
Concrete . . . . .	27
Steel delivered . . . . .	65
Steel erected . . . . .	30
Waterproofing . . . . .	7
Underpinning . . . . .	100

About 41 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of construction, and the total value of work estimated, on each section of Route No. 29, from the beginning of construction to December 31, 1916:

Item	Unit	Section 1	Section 2	Total
<i>Subway construction</i>				
Earth excavation above M. H. W. . . . .	Cu. yds. . . . .	145,512	168,900	314,412
Underpinning buildings less than 7 stories . . . . .	Lin. frt. ft. . . . .	1,548	628	2,176
By-passing pipes upon or below surface (all sizes) . . . . .	Lin. ft. . . . .	9,789	6,490	16,279
By-passing pipes on trestle . . . . .	Lin. ft. . . . .	789	108	897
Trestle for by-passing pipe . . . . .	Lin. ft. . . . .	405	133	538
<i>Sewer construction</i>				
Earth excavation . . . . .	Cu. yds. . . . .	14,975	20,800	35,775
Concrete masonry . . . . .	Cu. yds. . . . .	.....	170	170
Sewers constructed, all sizes . . . . .	Lin. ft. . . . .	1,850	7,900	9,750

	Subway construction	Sewer construction
Section 1, total value of work completed, as estimated.....	\$613,622 84	\$29,677 00
Section 2, total value of work completed, as estimated.....	634,078 75	68,073 90

**Sewer Work:**— *Route No. 12, Section No. 1.*— During the year 1,920 linear feet of sewers were built, making a total to December 31, 1916, of 6,180 linear feet constructed, or 96 per cent of the sewer work on this section.

Record drawings of the off-line sewers, built on Dean street from Fifth avenue to Flatbush avenue, and on Park place, Sixth avenue, Sterling place and Butler street from Flatbush avenue to Fourth avenue, were prepared, and these sewers turned over to the President of the Borough of Brooklyn for future maintenance and control.

*Route No. 12, Section No. 1-A.*— During the year 1,290 linear feet of sewers were built, making a total of 2,620 linear feet to December 31, 1916, or 65 per cent of the entire sewer work on this section.

*Route No. 12, Section No. 2.*— The sewer reconstruction involved on this section, consisting of some 1,400 linear feet to be built mostly above the roof of the structure, has not yet been started, which work cannot well be undertaken until the subway structure is further advanced.

*Route No. 12, Section No. 3.*— Out of a total of 2,700 linear feet of sewers to be built on this section, 680 linear feet were constructed during the year, or 25 per cent of the work completed.

*Route No. 29, Section No. 1.*— There were built during the year on this section 710 linear feet of sewer, out of a total of 14,000 linear feet to be built, in all making 1,850 linear feet to December 31, 1916, or 13 per cent of the entire work, completed to that date.

*Route No. 29, Section No. 2.*— Sewer construction was commenced during the year, and to December 31, 1916, there were built 7,900 linear feet, or 49 per cent of the entire sewer work of the section.

Extensive sewer changes being required on this section, con-

siderable work in making alterations has already been carried out. The vitrified pipe sewers are completed from the north end of the section to Avenue D, with the exception of connections to the inverted siphons at Beverly road and Clarendon road, which siphons near the subway structure are partially completed. A permanent concrete sewer has been built on the west side of the structure from Avenue D to Newkirk avenue, and on the east side from Newkirk avenue to Farragut road.

#### QUEENSBORO SUBWAY

**Plans:**— This is a two-track subway from Times square, Manhattan, extending under 42d street and the East river to 4th street, in Queens, and to Hunters Point avenue, where it emerges onto an elevated line in the Long Island Railroad yard; thence extending as a two-track elevated structure over Davis street and Ely avenue to the Queensboro Bridge plaza where a junction is made with two tracks each from the Second Avenue "L" in Manhattan and the Broadway-Fifty-ninth Street subway. At the east end of the plaza the line divides into two branches; one extending as a three-track elevated line to Astoria via Jackson avenue and Second avenue; the other as a three-track elevated line over the Diagonal street viaduct, Queens boulevard, Greenpoint avenue and Roosevelt avenue to Alburtis avenue in Corona. As originally constructed, this route extended from Park avenue in Manhattan to Van Alst avenue in Queens. This part is known as Route No. 26. The extension from Park avenue to Times square is called Route No. 35, and that from Van Alst avenue to Queensboro Bridge plaza, Route No. 50. The lines to Astoria and Corona are parts of Routes Nos. 36 & 37. These routes are divided into Sections Nos. 1, 2 and 3.

The Dual Subway Contracts reserve trackage rights for the New York Municipal Railway Corporation over the Astoria and Corona lines, beyond the Queensboro Bridge Plaza station.

*Route No. 26, Temporary Operation.*—After the Dual Contracts were signed, efforts were made to put in operation the Steinway tunnel, which was completed some years before, but was not put into operation because of non-compliance with franchise requirements. Contract was let for necessary changes to

permit early operation with subway cars. Rapid Transit Subway Construction Company, contractor. Date of contract, April 13, 1914. Contract period, 9 months. Summary of contractor's bid, \$383,910.75.

The tunnel is now under temporary operation from the Grand Central station in Manhattan to the station at Queensboro Bridge plaza in Long Island City.

Studies are being made for a proposed temporary diamond crossover at Grand Central station to increase the temporary capacity.

In order to provide for the heavy transfer traffic that is expected between the Queensboro subway and the Lexington Avenue subway at the Grand Central station, plans were prepared for a ramp, together with necessary stairways connecting the stations of these two lines at this point. This will add materially to the present limited facilities for the transfer of passengers now possible by the operation of elevators. The estimated cost of this ramp, including station finish, is \$75,000, which amount was appropriated by the Board of Estimate on December 27, 1916.

*Route No. 26, Permanent Operation.*—The proposed contract for permanent operation of Route No. 26 includes the lengthening of the Jackson Avenue station and the building of a ventilating shaft and fan chamber on 42d street near the East river. Contract drawings for this work were completed last year, but changes are being made to provide for a compressor plant at Shaft No. 2 as requested by the operating company.

Studies are also being made for the construction of an additional elevator and escalator at Grand Central station so as to increase traffic facilities.

*Route No. 35.*—This is an extension of the Queensboro subway under 42d street from Park avenue to Times square. This work cannot be undertaken before the east and west trunk lines in Manhattan are completed, as part of the existing subway in 42d street will be used for this line. Contract drawings are being prepared.

*Route No. 50.*—This section is in the Borough of Queens. It connects the original Steinway tunnel in 4th street at Van Alst avenue with the elevated structure on the Queensboro Bridge plaza. It extends under private property to and under Hunters



QUEENSBORO SUBWAY. BRIDGE PLAZA STATION, QUEENS



Point avenue, thence in open cut, on masonry structure and a two-track elevated structure, through the North Shore yard of the Long Island Railroad, Davis street and Ely avenue to a junction with Section No. 1 of Routes Nos. 36 & 37 on Queens plaza at a point east of Ely avenue. From 13th street to Queens plaza, one track rises above the other to permit of connection with the double-deck structure on Queens plaza. Contract let to the contractor, Degnon Contracting Company. Date of contract, December 31, 1913. Contract period, 18 months. Summary of contractor's bid, \$557,856.50.

*Routes Nos. 36 & 37, Section No. 1.*— This section extends from a point on the Queensboro Bridge plaza, near the east line of Ely avenue, to Jackson avenue; on Jackson avenue from the plaza to about Beebe avenue, and also over the Diagonal Street viaduct from Jackson avenue to about Van Dam street. The Snare & Triest Company, contractor. Date of contract, October 7, 1913. Contract period, 24 months, extended to April 3, 1916. Summary of contractor's bid, \$884,859.

It is an elevated railroad with a double-deck structure on the bridge plaza with four tracks on each level, connecting with a three-track structure on Jackson avenue to join Section No. 2 of this route, and a three-track structure over the Diagonal Street viaduct to join Section No. 3.

Working drawings had been completed prior to 1916, except for a few details to amplify plans during construction.

Plans have been prepared for the partial reconstruction of the structure on the west end of the bridge plaza to provide for the connection from the East River tunnel of the New York Municipal Railway Corporation, which replaces the connection originally planned for this company via the Queensboro bridge.

This section contains a large union station on the plaza, which is a junction point for the Broadway Subway extension from 60th street, Manhattan; an extension from the Second Avenue "L" in Manhattan, and the connection from the Steinway tunnel known as Route No. 50. Provision is made so that the traffic from the three lines may merge in this section, and proceed thence either toward Astoria or toward Corona.

The station structure on the plaza has been made with an ornamental concrete finish.

*Routes Nos. 36 & 37, Section No. 3.*— This section is located in the Borough of Queens, beginning at a point near Van Dam street on the Queens boulevard, Greenpoint avenue and Roosevelt avenue to Alburtis avenue in Corona. Contractor, E. E. Smith Contracting Company. Date of contract, March 7, 1913. Contract period, 18 months, extended to April 3, 1916. Summary of contractor's bid, \$2,063,588.

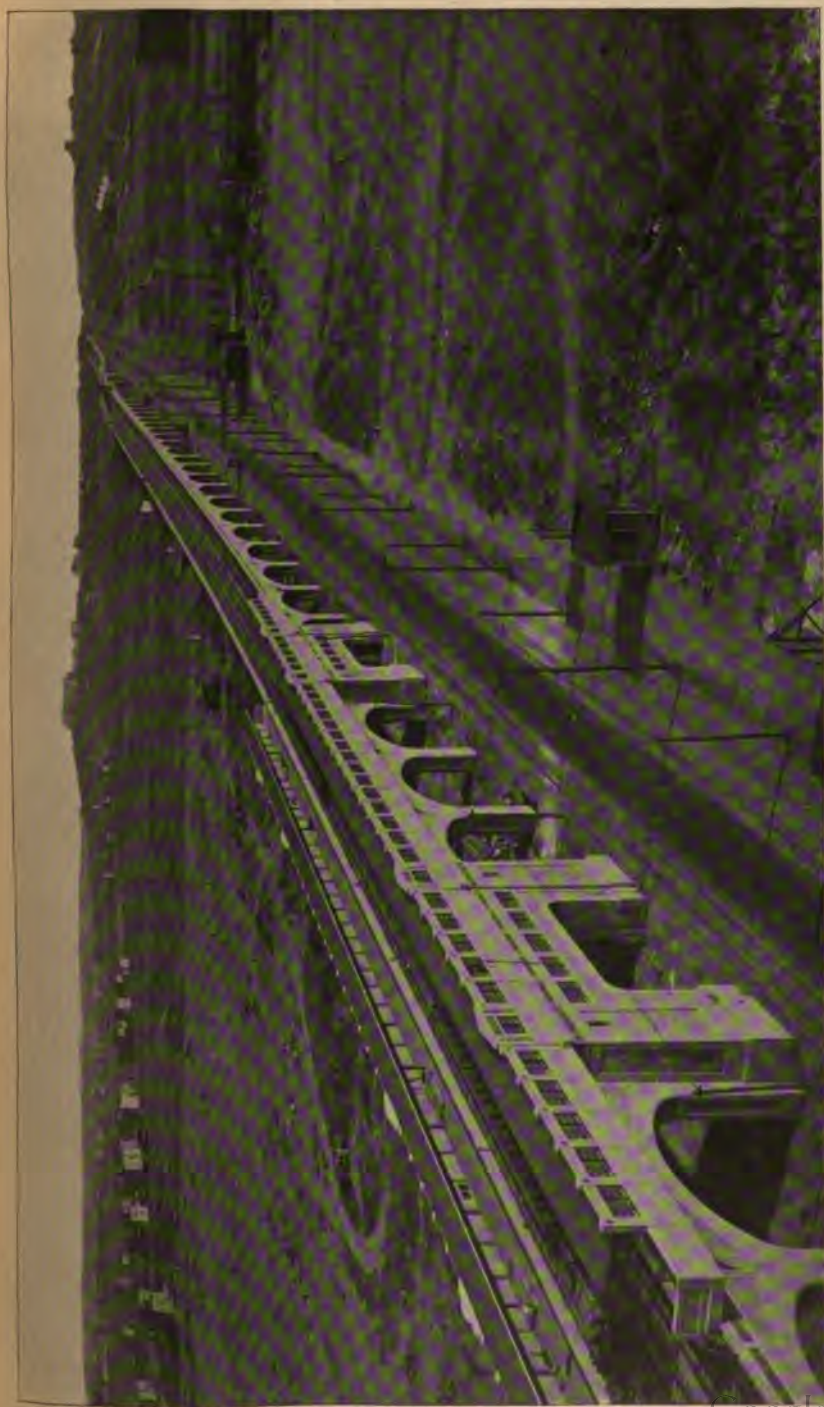
It is a three-track elevated railway throughout. The portion of the line within the Queens boulevard is an ornamental reinforced concrete structure. The remainder of the line is of the standard type of steel construction.

Working drawings for this section were completed prior to 1916.

A yard for the storage of cars for the Queens lines will be required. Several sites along Section No. 3 of Routes Nos. 36 & 37 have been considered, and preliminary sketches and estimates made. The location of the yard, however, has not been finally fixed.

*Route No. 52.*— An extension of Routes Nos. 36 & 37, Section No. 3, has been legalized as a three-track line over Roosevelt avenue to and over the Flushing river; thence as a three-track subway under Amity street to Murray street, and thence as a three-track elevated line over private property, Station road and Warburton avenue to Cliffside avenue in Bayside. Following the legalization of this route The Long Island Railroad Company made a proposal to the Commission to lease the tracks of its Whitestone branch and of its Port Washington branch as far as the City Line at Little Neck to the City for the operation of rapid transit trains. This proposal has been analyzed from various standpoints and has been discussed with The Long Island Railroad Company and the operating companies, but final disposition has not yet been made.

**Construction:**— *Route No. 26, Temporary Operation.*— The principal items of work under the contract for the reconstruction of the Steinway tunnel portion of the Queensboro subway were completed during 1915 and the railroad put into operation at noon of June 22, 1915.



QUEENSBORO SUBWAY. BIRDSEYE VIEW OF REINFORCED CONCRETE STRUCTURE, QUEENS BOULEVARD



After operation had started, the necessity for certain railings, additional hand rail supports and hand grips on the bench in the river tunnels became apparent and these were installed during the year. All work under this contract is now completed.

The following tabulation gives the work done under the principal items of the contract for construction for temporary operation of Route No. 26 from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

#### *Construction*

Earth excavation above M. H. W...	151.8 cu. yds.
Earth excavation below M. H. W...	314 cu. yds.
Rock excavation .....	146 cu. yds.
Tunnel excavation .....	6,231.8 cu. yds.
Concrete .....	5,824.2 cu. yds.
Removal of concrete in floor benches, etc., of tunnel.....	394.6 cu. yds.
Removal of old masonry.....	2,635 cu. yds.
Waterproofing .....	8,157 sq. yds.
Brick in asphalt mastic.....	93.6 cu. yds.
Tunnel ducts .....	100,357 duct feet
Steel delivered .....	479 tons
Steel erected .....	479 tons

#### *Station Finish*

Hydrolithic plastering .....	4,587 sq. yds.
Electric conduits, all sizes.....	5,298 lin. ft.
Concrete floor finish.....	9,684.6 sq. ft.

#### *Track Work*

Installation of Type IV track.....	12,484.8 lin. ft.
Total value of work completed as estimated .....	\$395,934.12

*Route No. 26, Permanent Operation.*—The Steinway tunnel under 42d street, as originally constructed, consisted of two single tubes west of the station between Lexington avenue and Third avenue. At the intersection of Park avenue and 42d street these tubes were joined by a loop of about 50 feet radius. The core of

rock between these tubes, together with their masonry lining, has been removed and a large arch built spanning the space from out to out of the original tubes. This arch has been completed and the station platform extended to the new shaft at Park avenue and 42d street.

The work of constructing new single track tubes from the west-erly end of the station to Vanderbilt avenue has been completed.

Work has also been in progress on the installation of some 2,200 feet of track in the north tube from Shaft No. 2 at the East river to the station, and on the extension of the south track from the east end of the new station to the elevators.

Practically 100 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of construction, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Earth excavation above M. H.	
W. . . . .	300 cu. yds.
Rock excavation . . . . .	130 cu. yds.
Tunnel excavation . . . . .	25,153 cu. yds.
Concrete . . . . .	11,725 cu. yds.
Waterproofing . . . . .	202 sq. yds.
Tunnel ducts . . . . .	8,818 duct feet
Steel delivered . . . . .	309 tons
Steel erected . . . . .	309 tons.
Total value of work completed, as estimated . . . . .	\$495,454.75

*Route No. 50.*— The subway structure, including the approach to the elevated structure, has been completed, the subsurface and other structures restored, the excavations backfilled and the street surfaces replaced.

The elevated structure and all work incidental to it has been completed. To protect the portion of the structure across the North Shore yard of the Long Island Railroad, the steel of the superstructure was encased in a coating of sand and cement applied with a cement gun.

The duct line construction has been completed, including the



QUEENSBORO SUBWAY, TYPICAL DOUBLE CROSSOVER, ELEVATED STRUCTURE



special construction for the duct line under the Long Island Railroad tracks at West avenue and 4th street.

Practically 100 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of the contract for the construction of Route No. 50, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Earth excavation above M. H.	
W. . . . .	23,800 cu. yds.
Earth excavation below M. H.	
W. . . . .	12,650 cu. yds.
Rock excavation . . . . .	637 cu. yds.
Column excavation . . . . .	6,612 cu. yds.
Railroad duct excavation . . . . .	5,051 cu. yds.
Concrete masonry . . . . .	14,067 cu. yds.
Brick masonry . . . . .	11 cu. yds.
Rubble stone masonry . . . . .	6 cu. yds.
Timber piles . . . . .	26,081 lin. ft.
Waterproofing . . . . .	11,189 sq. yds.
Brick in asphalt mastic . . . . .	1,019 cu. yds.
Tunnel ducts . . . . .	13,890 duct feet
Railroad ducts . . . . .	190,076 duct feet
Steel delivered . . . . .	4,714 tons
Steel erected . . . . .	4,714 tons
Street surface restored . . . . .	1,581 sq. yds.
Total value of work completed, as estimated . . . . .	\$624,787.81

*Routes Nos. 36 & 37, Section No. 1.*—All column foundations were completed, and the steel for the viaduct erected and riveted during the year. Combination pipe and concrete piles were driven in the footings which support the unusually heavy steel of the viaduct crossing the Sunnyside yard of The Long Island Railroad Company.

The duct line of 40 ducts in the Queensboro plaza has been completed from Ely avenue to Hunter avenue, where it divides into two lines of twenty ducts each. One line joins the duct

line on Section No. 2, while the other is carried to Jackson avenue near Diagonal street, where it is connected with a duct line along Diagonal street which connects with the duct line on Section No. 3.

The double-deck station in the Queensboro plaza has been completed, and the surface finished by rubbing and bush-hammering.

The work of restoring surface and subsurface structures and replacing pavements has been completed.

*Routes Nos. 36 & 37, Section No. 3.*—The work of constructing the reinforced concrete viaduct on Queens boulevard was practically completed during 1915.

The work during 1916 consisted principally of placing concrete for station floors, etc., correction of unsatisfactory details, the placing of ornamental tile, and dressing the concrete surfaces of the viaduct and stations.

The erection of the viaduct structure is completed. The portion of the structure over the Long Island Railroad tracks at Woodside, which could not be completed because of interference with the high tension wires of the railroad, was erected during the year.

Such surface and subsurface structures as were disturbed have been restored and street pavements replaced.

The following tabulation gives the work done under the principal items of construction on each section of Routes Nos. 36 & 37, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Item	Unit	Section 1	Section 2	Section 3	Total
Column excavation	Cu. yds.	16,533	20,159	69,124	105,816
Railroad duct excavation	Cu. yds.	7,732	7,019	14,895	29,646
Concrete	Cu. yds.	10,423	5,057	66,469	81,949
Brick masonry	Cu. yds.	27	18	63	108
Timber piles	Lin. ft.	6,098	802		6,900
Concrete piles	Lin. ft.	28,691			28,691
Waterproofing	Sq. yds.	6,680		24,604	31,284
Railroad ducts	Duct ft.	90,091	199,320	397,315	686,726
Steel delivered	Tons	12,388	11,521	26,085	49,994
Steel erected	Tons	12,388	11,521	26,085	49,994
Street surface restored	Sq. yds.	13,502	8,916	2,781	25,199
Street surface electric railroad in final position (single track)	Lin. ft.	16,831		9,658	26,489

Section 1, total value of work completed, as estimated	\$1,064,103 99
Section 2, total value of work completed, as estimated	852,870 74
Section 3, total value of work completed, as estimated	2,401,064 63

*Contracts for Station Finish, Track Installation, etc.*

The construction work under the contracts covering the routes and sections which follow, having advanced sufficiently for separate contracts to be let, is given in detail, to include the station finish and track installation work before these sections can be put into operation; contracts for such work were let during 1915 and 1916. The proper drainage of the reinforced concrete viaduct on the Queens boulevard required the construction of a storm drain, and a contract for this work was awarded during 1915; also is here shown work done in connection with the construction of the railroad duct line for the Queensboro subway, to connect with Shaft No. 2 on the northerly side of East 42d street, between First avenue and the East river, beginning at the tunnel duct manhole at East 44th street and Lexington avenue, for which contract was let during 1916:

*Station Finish, Route No. 26 (Permanent Operation).*— Contract for this work was let to the Thomas J. Waters Company, on August 11, 1916, at a contract price of \$22,648.18.

Work was started on September 12, 1916, and is now practically completed. Plastering, placing of cement floor finish and glazed tile, and painting and hollow tile work have been completed.

The emergency exit stairways and the metal enclosures for the elevator shafts have been constructed.

*Station Finish, Routes Nos. 36 & 37, Sections Nos. 1 and 3, and Route No. 50.*— This contract was let to the Snare & Triest Company, on September 29, 1915. Contract price, \$609,885.

At the Queensboro Plaza station all stairways, stair canopies and platform canopies have been erected. The exterior walls of mezzanines, the wind screens alongside the lower level tracks, and all hollow tile and brick walls have been built and glazed and mosaic tile set. Cement floor finish has been placed on all train platform and mezzanine floors. Rough plumbing and toilet fixtures have been installed and sewer and water connections made to same. The installation of electric conduits has been completed. The framing for the permanent enclosures at the ends of the station has been erected and sheathed and the flooring laid.

At the Rawson-Moore Street, Lowery Street and Bliss-Carolin Street stations of the reinforced concrete viaduct, the canopy

roofs have been erected and painted, and the kalamein frames and sashes of the wind screens placed. All hollow tile partition and enclosure walls have been built, and part of the scratch coat of plaster placed. Tile has been set in the toilet rooms and on a portion of the mezzanine and stairwell walls. The cement floor finish for the mezzanines has been put in place. The rough plumbing and part of the toilet fixtures have been installed and water connections made. The erection of ticket booths has been completed.

At the Woodside, Lincoln Avenue, Fiske Avenue, Broadway, 25th Street, Elmhurst Avenue, Junction Avenue, Alburdis Avenue and 11th Street stations, the placing of concrete for floors, etc., has been completed; canopy roofs have been erected and painted on all the stations, and wind screens installed at all but the Junction Avenue station, where none is to be constructed. Enclosure walls and interior partition walls have been erected, and the flooring placed. The stairways have been erected, and posts and steel for the canopies over same placed. Rough plumbing and toilet fixtures have been installed and water connections made. All electric conduits, pull boxes, etc., have been installed. The erection of ticket booths has been completed.

For the trainmen's quarters at the Woodside and Alburdis Avenue stations, the exterior walls, interior partitions and roof have been completed and the doors and windows hung. A portion of the plumbing has also been placed.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work, all kinds.....	11,598 sq. ft.
Plastering . . . . .	2,272 sq. yds.
Cement finish . . . . .	60,573 sq. ft.
Cast-iron and wood stairs.....	11,666 lin. ft.
Common brick . . . . .	494 cu. ft.
Hollow tile . . . . .	15,265 cu. ft.
Electric conduits . . . . .	29,287 lin. ft.
Painting . . . . .	14,124 sq. ft.
Total value of work completed, as estimated . . . . .	\$352,898.69

*Station Finish, Routes Nos. 36 & 37, Section No. 2.*—A contract for the construction of the six stations on this section was let to Charles Meads & Co., on October 5, 1915, the contract price being \$268,102.50. Practically all work under this contract has been completed; the platforms, canopies, wind screens, stairways, designation signs, electric conduit work, plumbing and the erection of ticket booths having been completed at the Beebe Avenue, Washington Avenue, Broadway, Grand Avenue, Hoyt Avenue and Ditmars Avenue stations.

The construction of trackmen's quarters and recreation rooms at the Ditmars Avenue station has also been completed.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work .....	4,325 sq. ft.
Plastering .....	490 sq. yds.
Cement finish .....	110 sq. ft.
Cast-iron and wood stairs.....	4,575 lin. ft.
Common brick .....	300 cu. ft.
Electric conduits .....	14,110 lin. ft.
Painting .....	12,134 sq. ft.
Total value of work completed, as estimated .....	\$210,106.04

*Station Finish, Route No. 50, Hunters Point Avenue Station.*

—In order to make possible the temporary operation of the Queensboro subway to the Hunters Point Avenue station a contract for part of the station finish for this station was awarded to the Station Construction Company, on October 13, 1915. All the work, which was to be done for the lump sum price, \$2,999.99, was completed by January 15, 1916.

A contract for the station finish of the Hunters Point Avenue station which was not covered by the contract for station finish for temporary operation was let to the Degnon Contracting Company on April 22, 1916, the contract price being \$32,219.22.

The work under this contract is practically completed. All

plain and mosaic tile and name plates have been set, all plastering and cement finish work completed, stairways and walls built and railings and ticket booths erected.

The following tabulation gives the work done under the principal items of this contract with the Degnon Contracting Company, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work .....	14,175 sq. ft.
Plastering ..	5,034 sq. yds.
Cement finish .....	13,990 sq. ft.
Concrete stairs .....	919 lin. ft.
Common brick .....	1,200 cu. ft.
Hollow tile .....	1,891 cu. ft.
Electric conduits .....	219 lin. ft.
Painting .....	40,657 sq. ft.
Total value of work completed, as estimated .....	\$25,851.73

*Track Installation, Routes Nos. 36 & 37, and Route No. 50.*—A contract for this work was let to the Thomas Crimmins Contracting Company, on December 13, 1915. Contract price, \$204,898.10.

The work under this contract is practically completed. The stone fill over the Queens boulevard reinforced concrete viaduct has been placed, some 1,500 feet of track laid in tunnel on Route No. 50. and some 18 miles of track laid on the elevated lines. On the remainder of the elevated lines the ties have been laid and the rails placed; the only work remaining is the work of placing the plank walk, guard rails, etc., for this portion of the railroad.

The following tabulation gives the work done under the principal items of this contract from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Type I track .....	630 lin. ft.
Type II track .....	1,100 lin. ft.
Type III track .....	92,000 lin. ft.
Type VI track .....	12,900 lin. ft.
Special work .....	\$8,000 lump sum
Total value of work completed, as estimated.....	\$116,482.19

*Storm Drains, Queens Boulevard.*—A contract was let to Murphy Brothers on November 30, 1915, for the construction of a storm drain of vitrified pipe, with manholes and connections at intervals, extending under Queens boulevard in the Borough of Queens from the west abutment of the Queensboro subway, between Hill and Rawson streets, to the east abutment of said railroad between Carolin street and Gosman avenue. The contract price for the work was \$7,421.25.

The work was started on December 7, 1915, and by April 6, 1916, all the drains had been laid, the manholes constructed, the trenches backfilled and the surface restored.

*Queensboro Subway Railroad Duct Line.*—The contract for this work was awarded to the Beaver Engineering & Construction Company on May 25, 1916. Work was started on July 5, 1916.

This duct line consists of forty ducts and extends from a point under 44th street and Lexington avenue, east on 44th street to First avenue, thence south under First avenue to 42d street, and east on 42d street to Shaft No. 2 of the Queensboro subway between First avenue and the East river.

Excavation in both earth and rock has been completed, the ducts have been laid and manholes built, the duct trench has been backfilled and a temporary pavement placed.

The percentages of the principal items of work completed are as follows:

	Per cent
Earth excavation .....	90
Rock excavation .....	95
Concrete . . . . .	80
Railroad ducts .....	75

**COMPANY CONTRACTS — INTERBOROUGH LINES****THIRD-TRACKING ELEVATED RAILROADS**

**Plans:**—A third and at some points a fourth track is being added to the Second, Third and Ninth Avenue Elevated lines, in Manhattan and The Bronx, for the operation of express trains during the rush hours in the direction of the heavy traffic. Plans for this work have been prepared by the company and approved by the Commission. The work consists of strengthening and widening the present structure to support and accommodate the additional track work, and at the same time maintain the traffic on the elevated line without interruption. The company awarded the contract to the T. A. Gillespie Company for foundations, and to the Terry & Tench Company and the Snare & Triest Company for steel work, on the basis of cost plus 15 per cent. Plans are completed and the work is nearing completion. Time for completion has been extended to July 1, 1917.

On the Third Avenue Elevated line the 149th Street station is a point of transfer to the present subway. As a result, dangerous congestion developed. Studies of a means of improving the facilities were made and considered, and the Interborough Rapid Transit Company accepted an order for the construction of an additional mezzanine and stairways for this purpose.

The Interborough Rapid Transit Company has complied with an order to remove the composite (wood and copper) cars from the subway. These cars are to be used in express service on the Second and Third Avenue Elevated lines. An investigation is being made to determine the safety of the Third Avenue Elevated line for the emergency operation of these cars on its local tracks. This investigation consists of an actual survey of the structure, followed by the usual analysis to determine its safety. This work is nearly completed, and it is expected that a report can be made early in 1917.

**Construction:**—Construction work in connection with the third tracking of the elevated lines in Manhattan and The Bronx, and other construction incidental thereto, was practically completed by the close of 1915. On January 17, 1916, operation of the new express tracks was begun. On the Second Avenue line throughout

its length; on the Third Avenue line between City Hall and 149th street, and on the Ninth Avenue line between Cortlandt street and 125th street. At the time this operation was begun practically all heavy construction work was completed, except the construction of the east half of the terminal station at 157th street on the Ninth Avenue line. The new express track on the Ninth Avenue line between 125th and 157th street was not operated because the limited facilities at the partly completed terminal at 157th street made it necessary to use this stretch of track for turning and storing trains. Similarly on the Third Avenue line the express track between 149th street and Fordham road was not put into service, because the delayed construction of the Webster Avenue line (which joins the Third Avenue Elevated with the White Plains Road line) and a yard at 239th street and White Plains road made it necessary to use the track between these points for storing trains when not in use for express service.

During the year the new structures were put in condition for permanent operation. Progress consisted of work such as the construction of signal towers, track and tool houses, circuit breaker houses, completion of the new signal systems, completion of track work, and a variety of minor work necessary to bring the work to completion. The terminal station at 157th street on the Ninth Avenue line will not be completed until the construction of the joint Interborough Rapid Transit Company and Putnam Railroad station at 162d street and Sedgwick avenue, which will take the place of the present joint station at 157th street and Eighth avenue. The new station will probably be completed by the Summer of 1917.

#### EXTENSIONS OF ELEVATED RAILROADS

**Plans:**— *Webster Avenue Line.*— This is a three-track elevated extension from the Third Avenue line of the Manhattan Elevated Railway at a point immediately north of Fordham road over Webster avenue and Gun Hill road, to a connection with the White Plains Road line, Section No. 2 of Route No. 18.

Contract drawings and contract and specifications were prepared by the Interborough Company and approved by the Commission. Revised plans were resubmitted and approved during the current year.

The company's request to the Commission for the approval of the award of the contract for this line to the companies doing the work on third-tracking on the basis of cost plus 12½ per cent was denied. However, the construction at the actual connection to the Third Avenue line and also that over the tracks of the New York Central near this point for a length of about 300 feet, which must be constructed under traffic conditions, known as Section No. 9-A, was approved on the basis proposed and contract let to the T. A. Gillespie Company. For the remainder of the line, known as Section No. 9-B, bids submitted to the Interborough Company were forwarded to the Commission and approved. M. J. Leahy, contractor. Date of contract, March 16, 1916. Contractor directed to begin work April 6, 1916. Contract period, 12 months from latter date. Summary of contractor's bid, \$831,110.90.

*Eighth Avenue and 162d Street Connection.*— This line extends from 157th street and Eighth avenue from a connection with the Ninth Avenue "L," over the Putnam bridge of the New York Central Railroad and across private property to Sedgwick avenue, thence under private property and intersecting streets as a two-track subway to and under 162d street to a point in private property east of Anderson avenue, where it again becomes an elevated structure. It extends thence over private property and intersecting streets to a connection at River avenue with the Jerome Avenue line, Route No. 16, Section No. 1. An ornamental elevated structure has been planned at Jerome avenue.

Construction drawings and contract and specifications for this line have been prepared by the company and approved by the Commission.

As with the other extensions, the Commission did not approve of the award of this contract to the contractor doing the third-tracking work on the elevated lines, on the basis of cost plus 12½ per cent, except for that portion which must be constructed under traffic at the connection of the Ninth Avenue "L" and over the Putnam bridge, a length of 1,300 feet, known as Section No. 10-A, which was let to the T. A. Gillespie Company. For the remainder of the line, known as Section No. 10-C, bids submitted to the company were forwarded to the Commission and approved.

Battery Engineering & Construction Company, contractor. Date of contract, March 14, 1916. Contractor directed to begin work March 17, 1916. Contract period, 15 months from latter date. Summary of contractor's bid, \$336,784.50.

This line connects to the Ninth Avenue "L." over the tracks and bridge of the Putnam Division of the New York Central Railroad. The New York Central terminal will be removed from 155th street and Eighth avenue to Sedgwick avenue (Bronx), where a joint station is being constructed, partly by the Interborough Rapid Transit Company as a part of Section No. 10-A and partly by the New York Central Railroad Company.

Plans for this station have been prepared by the companies and approved by the Commission.

*West Farms Subway Connection.*—This is an elevated line connecting the Third Avenue "L," Manhattan, with the West Farms branch of the First Subway, near Brook avenue. It extends over private property, Willis and Bergen avenues, and over the First Subway to a connection at Westchester avenue near Brook avenue. By means of this connection, it will be possible to run trains between the West Farms Subway line and the Second and Third Avenue Elevated lines, without passing through the 149th Street station of the Third Avenue "L." The operation of this connection should eliminate a considerable part of the present congestion at 149th street, which results from the transfer between the subway and elevated lines at this point.

Contract drawings and contract and specifications have been prepared by the company and approved by the Commission.

The Commission did not approve the company's request to award the contract for the construction of this line to the T. A. Gillespie Company, the company doing the third-tracking work on the elevated lines, excepting the parts at the actual points of connection, a total length of about 800 feet, known as Section No. 6-B, which the company was permitted to award to this contractor on the basis of cost plus 12½ per cent. For the remainder of the line, known as Section No. 6-D, bids submitted to the company were forwarded to the Commission and approved. A. L. Guidone & Son, contractor. Date of contract, February 21, 1916. Contractor directed to begin work February 26, 1916. Contract

period, 10 months from latter date. Summary of contractor's bid, \$105,791.

*Queensboro Bridge Line.*— This is a two-track connection from the tracks of the Second Avenue Elevated line, Manhattan, which extends over the Queensboro bridge to the City-owned structure on Queensboro plaza, Section No. 1, Routes Nos. 36 & 37. When the bridge was constructed, provision was made for the operation of the Second Avenue trains on the upper deck. Some reconstruction, however, is required on the Manhattan end to avoid grade crossings at the connection with the Second Avenue line, and at the Queens end to make connection with the Interborough tracks on the plaza. Plans have been prepared by the company and approved both by the Department of Bridges and the Commission. The contract for the connection of the Second Avenue Elevated to Queensboro bridge, known as Section No. 4-B, has been awarded to the T. A. Gillespie Company, the contractor for the third-tracking work on the elevated line, on the basis of cost plus 12½ per cent. For the reconstruction on the Queensboro bridge, known as Section No. 4-C, a separate contract was advertised. Snare & Triest Company, contractor. Date of contract, July 7, 1916. Contract period, 5 months. Summary of contractor's bid, \$55,760.

**Construction:**— *Webster Avenue Line.*— In connection with the work on this line at the junction of the Third Avenue Elevated and the Webster Avenue line north of Fordham road, the foundations have been completed, steel erection is 14 per cent completed, and considerable track work has been done. For the structure on Webster avenue and Gun Hill road, work was begun on April 25, 1916, and about half the foundations have been completed, being approximately about 7 per cent of the total contract constructed. The contract time is 12 months.

*Eighth Avenue and 162d Street Connection.*— The section of this work between the Putnam Railroad bridge and the east side of Sedgwick avenue is nearing completion.

On the contract for the section between Sedgwick and River avenues, work was begun on April 25, 1916. The excavation for the subway section between Jerome and Anderson avenues has

been completed, and about half of the work on foundations between Jerome and River avenues has been finished. About 15 per cent of the total contract has been completed.

An agreement has been entered into between the New York Central Railroad Company and the Interborough Rapid Transit Company, and approved by the Commission, by which the New York Central Railroad Company will build a station at 162d street and Sedgwick avenue, which will be used jointly by the two companies. The present bridge over the Harlem river will be leased for eighty-five years to the Interborough Rapid Transit Company for the operation of trains over the Eighth Avenue and 162d Street connection. Work under this agreement has not yet begun. It is provided that the new station be completed by June, 1917.

*West Farms Subway Connection.*—The work on Section No. 6-B of this connection, at the junction of the Third Avenue Elevated and the new structure at 143d street, and at the junction of the West Farms subway and the new structure, has been completed.

On the contract for the remainder of this connection, known as Section No. 6-D, under construction by A. L. Guidone & Son, foundation work has been completed and steel erection is practically completed. Track work on this section is now about to be begun on contract for this work let to Snare & Triest Company, at a price bid of \$41,946.

*Queensboro Bridge Line.*—For purposes of construction, this work has been divided into two sections, as follows:

Construction of the approaches between the Queensboro bridge and the Second Avenue line; the construction of a new station at 57th street, and the reconstruction of the Second Avenue Elevated structure. All this work is practically completed.

The second section consists of the steel structure on the Queensboro bridge to connect with the structures at each end of the bridge, and the track work on the elevated structure over the bridge. This work is practically completed. Work is now to be begun on the installation of tracks under a contract let to W. S. Rae for \$114,300.

**NEW YORK MUNICIPAL DIVISION — CITY-OWNED LINES**

**Construction:**— *Centre Street Loop Subway.*—A small detail of maintenance affecting Sections Nos. 9-O-4 and 9-O-5 of the Centre Street Loop subway, now in operation, was in connection with a contract, dated March 13, 1916, entered into with D. C. Serber, for the reconstruction of certain manholes and the replacement of new manhole heads in connection with pipe galleries on Delancey and Kenmare streets. Contract price, \$3,700.

Under this contract cast-iron heads and covers were placed on the manholes of the pipe galleries, and the manholes were reconstructed to conform to the design of the new manhole heads.

All work was completed on April 29, 1916.

*Centre Street Loop Reconstruction.*—The reconstruction work required in connection with the Centre Street Loop subway, as a part of the Dual System, for operation by the New York Municipal Railway Corporation, which work had also been in progress during 1914, was, as stated in the 1915 report, so far advanced in 1915 as to permit of complete operation of the line on June 22 of that year. The only items of construction in progress during 1916 were the installation of some permanent special track work at one of the cross-overs near Worth street, which work was done by the operating company; and the removal of a stairway leading from the south mezzanine to the westerly loading platform of the Chambers Street station, under a contract with the Snare & Triest Company, dated June 15, 1916.

**BROADWAY-59TH STREET SUBWAY, MANHATTAN**

**Plans:**—This is a two-track and four-track line extending northerly from a point near Morris street, from a connection with the Whitehall-Montague Street line, under Trinity place, Church and Vesey streets to Broadway; thence under Broadway, Seventh avenue, 59th and 60th streets to a crossing under the East river to Queens, connecting there at the Queens Plaza station with the Queens lines. This line is two-track to Park place, four-track under Broadway and Seventh avenue to 59th street, and thence a two-track line. In addition, tracks are provided for sidings. A turnout is provided for a connection at Canal street to the Manhattan bridge, and provision is made for a future extension of the line up Eighth avenue.

The Dual Subway Contracts also give trackage rights to this company over the extensions of the Queensboro subway to Astoria and Corona. This will give Queens traffic the opportunity to connect directly with the Interborough Rapid Transit or Brooklyn Rapid Transit lines in Manhattan.

The Broadway-59th Street subway consists of Route No. 5, Sections Nos. 1, 1-A, 2, 2-A, 3 and 4, and Routes Nos. 4 & 36, Sections Nos. 1 to 5 inclusive, and Route No. 61.

*Route No. 5, Section No. 1.*—A two-track subway through Trinity place and Church street from a point 50 feet north of the north line of Morris street to 80 feet north of the center line of Dey street. Fredereck L. Cranford, Inc., contractor. Date of contract, September 27, 1912. Contract period, 40 months. Summary of contractor's bid, \$1,222,269.20.

Working drawings were completed prior to 1916.

*Route No. 5, Section No. 1-A.*—Beginning at a point under Church street, Manhattan, near Dey street, and extending thence under Church street private property, Vesey street, and again under private property to Broadway between Vesey and Barclay streets, thence under Broadway to a point near Park place. Frederick L. Cranford, Inc., contractor. Date of contract, September 27, 1912. Contract period, 40 months. Summary of contractor's bid, \$982,740.70.

Plans completed prior to 1916.

*Route No. 5, Section No. 2.*—Extends from a point under Broadway, near Park place, and thence along Broadway to a point near Walker street. The Degnon Contracting Company, contractor. Date of contract, February 6, 1912. Contract period, 40 months. Summary of contractor's bid, \$2,355,828.50.

Plans completed prior to 1916.

*Route No. 5, Section No. 2-A.*—Extends along Broadway from about Walker street to Howard street. The O'Rourke Engineering Construction Company, contractor. Date of contract, July 17, 1912. Contract period, 48 months. Summary of contractor's bid, \$912,351.60.

Plans completed prior to 1916.

*Route No. 5, Section No. 3.*—Extends along Broadway from about Howard street to Bleecker street. The Underpinning and

Foundation Company, contractor. Date of contract, January 19, 1912. Contract period, 40 months. Summary of contractor's bid, \$2,295,086.50.

Plans completed prior to 1916.

*Route No. 5, Section No. 4.*— Extends along Broadway from about Bleecker street to about 15th street in Union Square park. The Dock Contractor Company, contractor. Date of contract, August 19, 1913. Contract period, 36 months. Summary of contractor's bid, \$2,578,078.

Plans completed prior to 1916.

*Routes Nos. 4 & 36, Section No. 1.*— This contract extends from Union square at 15th street under Broadway to 26th street. Date of contract, August 1, 1913. Contractor, E. E. Smith Contracting Company. Contract period, 36 months. Summary of contractor's bid, \$2,056,702.50.

Most of the plans for this section were completed prior to 1916.

An under-track passageway at the 23d Street station connecting the two platforms was found to be slightly defective against water percolation. Details for waterproofing this passageway have been worked out and embodied in a working drawing.

*Routes Nos. 4 & 36, Section No. 2.*— This section extends under Broadway from 26th street to 39th street. Contractor, United States Realty & Improvement Company. Date of contract, July 23, 1914. Contract period, 32 months. Summary of contractor's bid, \$2,657,004.50.

The construction drawings have been completed and the shown drawings approved during the year.

A new ventilation arrangement for the portion of the section from a point midway between 29th and 30th streets to 35th street was adopted during this year. This new arrangement now eliminates the gratings from the sidewalks, and in lieu thereof places them in the open spaces in Greeley Square park and Herald Square park, and in the unused triangular area at the intersection of Broadway, Sixth avenue and 33d street.

During the year an agreement was executed with the contractor for the construction, for a lump sum of \$72,000, of a special track floor at the Sixth Avenue intersection so that the proposed Grand Central extension of the Hudson & Manhattan Railroad passing



BROADWAY-FIFTH STREET SUBWAY. STEEL MEMBERS BEING PLACED BEFORE ROCK EXCAVATION IS COMPLETED





BROADWAY--70TH STREET SUBWAY. COMPLETED STRUCTURE AND UNEXCAVATED ROCK IN CLOSE PROXIMITY



thereunder may at some future time be built without endangering the City's subway.

*Routes Nos. 4 & 36, Section No. 3.*—A four-track subway under Broadway and Seventh avenue, from about 38th street to about 51st street. Holbrook, Cabot & Rollins Corporation, contractor. Date of contract, September 1, 1915. Contract period, for completion of railroad ready for operation, 20 months, and for the entire contract 30 months. Summary of contractor's bid, \$3,740,913.50.

The railroad structure on this section is located in part beneath the Times Square station of the First Subway. At 45th street the westerly portion of the railroad structure will be located under the easterly track of the First Subway. The depth of excavation varies from 44 feet at 42d street to 24 feet at the north end of the section. Within the limits of the express station at and south of 42d street the railroad occupies practically the entire width of Broadway.

During the year 1916 the structural plans have been completed, and approximately 90 per cent of the shop drawings has been examined and approved.

From 39th street to 46th street the ventilation gratings were removed from the sidewalks in accordance with the new scheme adopted by the Commission and were placed in triangular islands between Broadway and Seventh avenue at 43d street and at 46th street. The ventilation of the station between 40th and 42d streets is accomplished by vent ducts built under the platforms and discharging at the 43d street island.

*Routes Nos. 4 & 36, Section No. 4.*—A four-track subway, under Seventh avenue, extending from 51st street to 59th street, where two tracks diverge, curving easterly into Central park to meet Section No. 5 of this route, and a four-track spur curve to the west to provide for a possible extension along Eighth avenue. The design as made will avoid grade crossings between the 59th Street branch and the extension to Eighth avenue. Litchfield Construction Company, contractor. Date of contract, May 20, 1915. Contract period, for completion of railroad ready for operation, 22 months, and for the entire contract, 26 months. Summary of contractor's bid, \$1,937,509.

The working drawings, which during the preceding year were about 25 per cent completed, have been finished and the shop drawings have been approved for practically the entire contract. Slight revisions in ventilation construction due to change of general scheme of ventilation have been made.

*Routes Nos. 4 & 36, Section No. 5.*—A two-track subway, beginning near the east line of Seventh avenue and extending eastward under Central park, 59th and 60th streets to the easterly side of Second avenue. Contractor, Degnon Contracting Company. Date of contract, August 7, 1914. Contract period, 29 months. Summary of contractor's bid, \$2,819,511. Contract price as modified, \$2,319,511. Expiration of Modified Contract period December 1, 1917.

As originally planned, the contract prescribed the construction of single-track tunnels, one each through 59th and 60th streets between Fifth and Second avenues; the separation of the tracks beginning at a point between Fifth and Sixth avenues. The layout was made so that the tracks would connect with a proposed approach to the Queensboro bridge in connection with the reconstruction of the bridge in such a manner as to permit of the operation of subway trains.

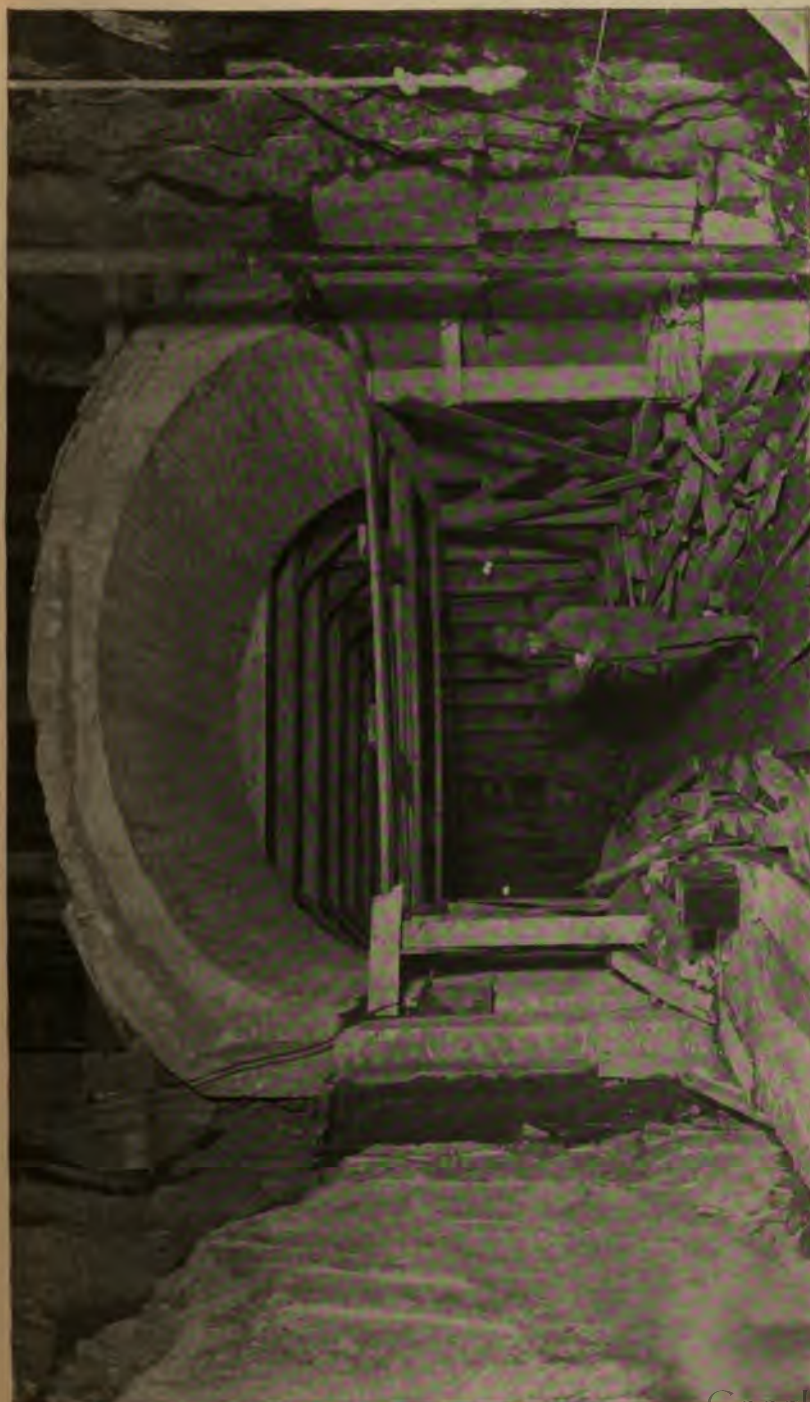
In the early part of the year 1915 the contractor made a formal offer to the Board of Estimate and Apportionment of the City of New York, proposing to construct a two-track railroad through 60th street from Fifth avenue to the east end of the section, instead of the single-track railroad through 59th and 60th streets, at a reduction of \$500,000 from the bid price. The proposal carried with it a guarantee that the construction of two tubes under the East river to connect with the Queensboro subway at the Queens plaza in the Borough of Queens would cost not to exceed \$4,500,000. The reason advanced for this offer to change the routing was that the reconstruction of the Queensboro bridge to provide for subway train operation would decrease the width of the vehicular roadways to such an extent that its use for vehicular traffic would be seriously impaired.

Upon the request of the Board of Estimate and Apportionment a new two-track route (known as Route No. 61) was laid out, beginning in 59th street west of Fifth avenue, and curving diag-



**BROADWAY-59TH STREET SUBWAY. EXCAVATION AND OPEN CUT UNDER CORNER  
OF CENTRAL PARK**





BROADWAY-59TH STREET SUBWAY. STEEL AND CONCRETE ARCH CONSTRUCTION AT 59TH STREET AND SEVENTH AVENUE



onally across Central park and the plaza to and under East 60th street and the East river to the Borough of Queens where it joins the Queensboro subway. The necessary modifying agreement was delivered January 19, 1916. During the year working drawings for the entire revised portion of this section have been issued, and shop drawings for the major portion of the shop drawing contract have been approved.

*Route No. 61* (as known for construction purposes).— This route, the whole of which was previously described in connection with revised Section No. 5 of Routes Nos. 4 & 36, is a two-track subway in Manhattan, beginning at Second avenue, thence crossing the East river in two separate tunnels, emerging from the ground in Queens near Hancock street, where it becomes an elevated line and connects with the Queens Elevated lines on the Queens plaza near William street.

There will be two construction shafts for this route, one at Avenue A, Manhattan, and one on Blackwell's Island. These shafts will also serve as permanent ventilation shafts. The contract for the construction of this route was executed August 3, 1916. Patrick McGovern & Company, contractor. Contract period, 30 months. Contractor's bid, \$4,194,797.

Working drawings for this contract were practically completed during the year, and substantial progress was made in the approval of the shop drawings.

**Construction:—***Route No. 5, Section No. 1.*— The unfinished work, consisting principally of the restoration of subsurface structures, backfilling and laying of the temporary pavement at the north end of the section, was completed about June 17, 1916.

*Route No. 5, Section No. 1-A.*— The work remaining to be done at the beginning of the year, consisting of the restoration of subsurface structures and of the street surface, was in progress during the first half of the year, and the entire work was completed during the week ending July 29, 1916, with the exception of the maintenance of the temporary pavement for a period of six months, as required by the contract, which period expired December 3 for the last block of temporary pavement laid.

*Route No. 5, Section No. 2.*— The construction of this section was substantially completed during 1915, and the entire work

under the contract was completed during the week ending January 8, 1916.

*Route No. 5, Section No. 2-A.*— With the exception of the six months required maintenance of the temporary pavement, the construction of this section was substantially completed during the preceding year. The entire work under the contract was completed during the week ending April 8, 1916.

*Route No. 5, Section No. 3.*— This section was completed before the beginning of the year, and the only work done was to correct slight defects which developed in the waterproofing, and street restoration.

*Route No. 5, Section No. 4.*— The unfinished portions of the structure, namely, the wings of the 8th Street station, a section of the structure between 11th and 13th streets, and the station entrances at 14th street, were completed. The work of backfilling, restoring subsurface structures, and the street surface, was continued and completed, but the permanent pavement was only restored in the intersecting streets and on and between the Broadway, 8th street and 14th street car tracks, including the entire 14th Street intersection; otherwise the pavement in Broadway, disturbed in connection with the work, was restored with temporary pavement; the City, through the Bureau of Highways, having arranged with the contractor to take over the permanent restoration of this part of the pavement in the manner provided by the contract.

The restoration of the southerly portion of Union Square park, within the limits of this section, was not included in the work to be done under the original contract, but acceding to a request of the City authorities, the work was included under a modifying agreement dated April 7. The restoration work under this agreement was entirely performed during the two months ending October 31.

In the following tables is given the work done under the principal items of construction on each section of the Broadway-59th Street subway, Route No. 5, and the total value of work estimated on each of these sections, from the beginning of construction to December 31, 1916:

WORK DONE UNDER THE PRINCIPAL ITEMS OF EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

Item	Unit	Sec. 1	Sec. 1-A	Sec. 2	Sec. 2-A	Sec. 3	Sec. 4	Total
<i>Subway construction</i>								
Earth excavation above M. H. W.	Cu. yds.	77,617	23,980	192,422	21,341	147,732	239,645	702,037
Earth excavation below M. H. W.	Cu. yds.	15,489	4,389	28,830	45,499	27,315	992	22,514
Rock excavation	Cu. yds.	690					14,578	15,268
Underpinning buildings less than 7 stories	Lin. frt. ft.	1,741	866	1,642	605	3,824	1,572	10,350
Underpinning buildings 7 to 12 stories	Lin. frt. ft.	316		1,380	102	1,359	250	2,416
Underpinning buildings over 12 stories	Lin. frt. ft.	262	74	127				463
Maintaining, protecting and securing buildings.	Lin. frt. ft.						1,860	1,860
Tunnel excavation	Cu. yds.		15,337					15,337
Concrete	Cu. yds.	21,378	9,203	39,659	18,120	28,985	39,030	156,345
Rubble stone masonry	Cu. yds.	987	9,089	3,832	708	4,691	4,772	15,229
Brick masonry	Cu. yds.	156	61	332	28	465	191	1,233
Waterproofing	Sq. yds.	32,891	6,598	40,695	16,636	33,636	40,487	170,933
Brick in asphalt mastic	Cu. yds.	2,785	576	1,265	2,266	1,892	954	9,728
Tunnel ducts	Duct ft.	78,200	40,160	189,733	43,589	202,346	302,650	886,568
Steel delivered	Tons	1,942	4,860	5,119	2,625	3,775	4,464	23,785
Steel erected	Tons	1,942	4,860	5,119	2,625	3,775	4,464	23,785
Street surface restored	Sq. yds.	3,695	2,981	20,472	4,095	16,290	28,272	75,775
Street surface electric railroad in final position (single track)	Lin. ft.	4,028	961	5,713	1,371	5,438	8,002	25,513
By-passing pipes upon or below surface (all sizes)	Lin. ft.	5,273	2,294				9,983	17,550
<i>Sewer construction</i>								
Earth excavation	Cu. yds.	8,104	2,231	5,141	365	7,804	26,103	49,748
Concrete masonry	Cu. yds.	32	16	905	58	1,716	806	3,913
Sewers constructed, all sizes	Lin. ft.	3,020	1,127	3,387	2,007	5,197	8,856	23,534

Total value of work estimated on each contract, from beginning of construction to December 31, 1916

Section	Subway construction	Sewer construction	Total
1.....	\$1,421,336 21	\$53,905 48	\$1,475,241 69
1-A.....	1,325,084 42	20,905 96	1,345,990 38
2.....	2,510,070 62	55,747 93	2,565,818 55
2-A.....	1,075,391 61	15,552 39	1,090,944 00
3.....	2,505,165 88	100,158 86	2,605,324 74
4.....	2,458,769 29	181,831 47	2,640,600 76

*Routes Nos. 4 & 36, Section No. 1.*— The uncompleted excavation and portions of the structure between 17th and 18th streets, between 23d and 24th streets, and at the north end of the section, were continued to completion about October 1, 1916, when the entire structure was completed, with the exception of painting and a few minor details.

Backfilling and restoration of subsurface structures was continued and completed, with the exception of a few openings between the south end of the section and 17th street, and between 19th and 26th streets. The restoration of the sidewalks was in progress during the year, and temporary pavement was laid in Broadway, south of 17th street, between 21st and 26th streets, and over portions of the roadway between 19th and 21st streets.

Owing to the relocation of two large water mains through the greater part of this section and the delays in obtaining shut-downs to make the necessary changes, the progress of the restoration work was impeded to an extent affecting the time of completion.

At the close of the year the entire subway structure and — per cent of the total value of the whole work had been completed.

*Routes Nos. 4 & 36, Section No. 2.*— The work of underpinning adjacent buildings was completed.

The portions of earth and rock excavation were removed between 31st and 34th streets and across the 36th street intersection, completing the excavation, with the exception of the additional depth to be excavated below subgrade at the intersection of Broadway and Sixth avenue for the purpose of constructing a bridge in the track floor spanning the proposed Sixth Avenue extension of the Hudson & Manhattan Railroad north from the present 33d Street Terminal station. The construction of this crossing — not a part

of the original contract — was added under a modifying agreement dated September 19, after the excavation had been completed to subgrade according to the original plans.

Building the railroad structure was continued throughout the section, except in the portion between 32d street and the north end of the 34th Street station. This change of plan, providing the additional construction to accommodate the proposed extension of the Hudson & Manhattan Railroad referred to above, incurred delays in the steel deliveries for the entire 33d Street station structure to such an extent that the deliveries were only completed at the close of the year, and the additional excavation for the Hudson & Manhattan crossing was not started until the latter part of December.

The structure is practically completed from the south end of the section to midway between 31st and 32d streets, and from midway between 34th and 35th streets to the north end of the section, with the exception of the wings of the 28th and 29th Street stations.

Backfilling, restoration of subsurface structures and underpinning the street railway tracks have been in progress over the completed portions of the structure.

Temporary pavement was laid on the completed backfilling on the east side of Broadway between the south end of the section and 28th street; between 35th and 36th streets and on both sides between 36th street and the north end of the section. Restoration of building vaults and sidewalks was in progress following as closely as possible after the advancement of the completed structure. The telpher hoists over the shafts in 28th street and 38th street west of Broadway were removed and the shafts closed.

The alteration of the public comfort station at Greeley square, made necessary on account of physical interference with the construction of the railroad, was prosecuted during the latter half of the year, and this work is practically completed.

With the exception of those portions of the work that have been unavoidably delayed on account of additional work or changes in design, excellent progress was made.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	95.6
Concrete . . . . .	58.9
Steel delivered . . . . .	95.1
Steel erected . . . . .	59.2
Waterproofing . . . . .	47.7
Underpinning . . . . .	84.4

About 75.7 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 36, Section No. 3.*— Excavation was continued over the entire contract, except in the block north of 50th street and between the south sides of 42d and 43d streets, where the railroad is to pass under the Times Square station of the existing Interborough Rapid Transit Railroad.

Underpinning of adjacent buildings was in progress during the year, and about 46 per cent of the necessary underpinning has been done.

The erection of the structure was begun in July, at the south end of the section, and a section about 80 feet in length has been completed between this point and 39th street. Short portions of the structure have since been constructed between 39th street and the south end of the 42d street express station; between 43d and 44th streets; 45th and 47th streets, and between 49th and 50th streets.

The progress on this section has been retarded by difficult rock excavation which, on account of its treacherous character and the proximity of the sides of the cut to adjacent buildings and the Interborough Rapid Transit subway, necessitated the underpinning of many buildings, the foundations of which are on rock, and the use of excavating methods calculated for safety more than for making rapid progress.

In order to provide safety against slipping rock, generally the excavation has been taken out about 10 feet deep for the full width of the structure, but subsequently in carrying the excavation to subgrade the rock is temporarily left in place on a safe slope in order to secure the banks; the excavation at subgrade is then wide enough to build the structure for the two center tracks, and as soon as this part of the structure is put in place, the temporary street supports for the central part of the roadway

are caught up on the two-track part of the completed structure. Finally, the side slopes are excavated in short sections, generally under the protection of runner beams, and the erection of the outside track structures is kept advanced following as closely as possible the removal of the excavation in the side slopes.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	49.6
Concrete . . . . .	8.7
Steel delivered . . . . .	62.7
Steel erected . . . . .	15.7
Waterproofing . . . . .	4.6
Underpinning . . . . .	45.9

About 35.9 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 36, Section No. 4.*—Underpinning of the adjacent buildings has progressed in advance of the excavation, or partly in conjunction with the progress of the excavation where access for underpinning or securing buildings was obtained by driving cross-drifts from the main excavation at intervals.

Excavation was continued and completed from the south end of the section to the north side of 54th street. During the month of January an additional overhead working platform was erected over the two working shafts between 55th and 56th streets. From three shafts the excavation has been continued between 54th and 56th streets to a stage which allows the erection of steel on the two central tracks, a rock slope being left in place temporarily to secure the side banks. Working southward from the shafts at 59th street, the excavation has been practically completed to the north line of 58th street; northward from these shafts entering Central park, the rock tunnels connecting with the adjoining section were completely excavated and the tunnel lining put in place.

Erection of the structure was begun in January between 52d and 53d streets and was continued between the south end of the section and 56th street; the structure is practically completed south of 54th street and steel erected on the two central tracks to 56th street. At the north end of the section both the upper

and lower level track structures were completed in Central park, across 59th street, and in Seventh avenue very nearly to the middle of the block south of 59th street.

Restoration of subsurface structures and backfilling over the completed structure was begun between 51st and 53d streets, and at 59th street.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	55.2
Concrete . . . . .	26.2
Steel delivered . . . . .	72.5
Steel erected . . . . .	32.4
Waterproofing . . . . .	19.1
Underpinning . . . . .	33.5

About 46.8 per cent of the total estimated value of the work is completed.

*Routes Nos. 4 & 36, Section No. 5.*— The contractor's proposal to which reference has previously been made, to construct a two-track railroad through 60th street in lieu of the two single-track railroads through 59th and 60th streets, prescribed by the contract, was accepted, and work on this portion of the contract, which had been suspended pending the consummation of the negotiations incident to the change, was resumed under the modifying agreement.

In addition to the working plants previously in use, single shafts and telfer hoists were constructed in 60th street about midway between Park and Lexington avenues, and on the north side of 59th street between Fifth and Sixth avenues. The shaft and derrick formerly located immediately east of Lexington avenue have been moved eastward to about the middle of the block between Lexington and Third avenues.

Excavation was continued and completed east from Sixth avenue under 59th street and Central park to the east side of Fifth avenue. Excavation was resumed in March between Madison and Third avenues, where the material is filled ground, sand, clay and rock.

Where the railroad passes beneath the tracks of the New York Central & Hudson River Railroad at Park avenue on account of

the soft material encountered, the design was modified to provide for the construction of the side walls in sections in advance of the floor and roof construction. This method provides a rigid support for the roadbed and temporary shoring of the New York Central & Hudson River Railroad tracks, and adds security to the adjacent soil. The temporary supports of the New York Central & Hudson River Railroad tracks have been placed, and the work of excavating alternate pits on the lines of the side walls from drifts beneath the tracks, and constructing the side wall masonry in these pits, is in progress.

The routing of two tracks in 60th street in place of a single track necessitates reconstructing the single-track undercrossing which was provided in connection with the construction of the Lexington Avenue line. The floor of the Lexington Avenue structure was therefore removed and replaced by a permanent floor extended to span the two tracks. Excavation and underpinning are in progress under the permanent floor preparatory to the construction of the permanent two-track undercrossing.

The concrete lining of the rock tunnels under Central park west of Sixth avenue was completed, and construction was in progress eastward to the east side of Fifth avenue, and practically completed to a point about 235 feet east of Sixth avenue.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	58.8
Concrete . . . . .	22.6
Steel delivered . . . . .	34.6
Steel erected . . . . .	11.2
Waterproofing . . . . .	8.7
Underpinning . . . . .	23.7

About 45 per cent of the total estimated value of the work is completed.

The following tables give the work done under the principal items of construction on each section of the Broadway-59th Street subway, Routes Nos. 4 & 36, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

WORK DONE UNDER THE PRINCIPAL ITEMS OF EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

Item	Unit	Sec. 1	Sec. 2	Sec. 3	Sec. 4	Sec. 5	Total
<i>Subway construction</i>							
Earth excavation above M. H. W.	Cubic yds.	177,426	79,056	61,278	45,830	80,208	443,798
Rock excavation	Cubic yds.	32,717	184,563	104,171	93,850	47,778	483,079
Underpinning buildings less than 7 stories	Lineal front ft.	910	1,520	1,382	.....	1,052	4,864
Underpinning buildings 7 to 12 stories	Lineal front ft.	454	590	394	.....	.....	1,438
Underpinning buildings over 12 stories	Lineal front ft.	.....	123	.....	.....	.....	123
Maintaining, protecting and securing buildings	Lineal front ft.	554	80	220	332	.....	1,208
Tunnel excavation	Cubic yds.	.....	.....	3,691	1,650	.....	21,242
Concrete	Cubic yds.	30,187	22,846	2,935	9,040	15,901	76,579
Rubble stone masonry	Cubic yds.	2,878	2,622	388	600	11,571	6,785
Brick masonry	Cubic yds.	246	453	.....	45	23	387
Waterproofing	Square yds.	28,200	17,750	1,907	6,010	4,003	57,870
Brick in asphalt mastic	Cubic yds.	.....	409	10	80	.....	57,978
Tunnel ducts	Duct ft.	233,929	131,600	.....	.....	39,400	404,928
Steel delivered	Tons	3,787	4,857	4,033	3,634	1,254	17,565
Street erected	Tons	3,782	3,023	1,010	1,621	1,406	9,842
Street surface restored	Square yds.	5,994	485	.....	.....	618	6,397
Street surface electric railroad in final position (single track)	Lineal ft.	3,402	.....	.....	800	218	4,420
By-passing pipes upon or below surface (all sizes)	Lineal ft.	7,815	9,235	6,900	5,620	6,404	36,075
By-passing pipes on trestle	Lineal ft.	315	.....	872	471	.....	1,658
Trestle for by-passing pipes	Lineal ft.	350	.....	714	506	.....	1,570
<i>Sewer construction</i>							
Earth excavation	Cubic yds.	5,536	2,100	1,469	1,900	1,904	12,909
Rock excavation	Cubic yds.	32	800	1,044	800	1	2,677
Concrete masonry	Cubic yds.	89	57	1,408	108	.....	1,659
Sewers constructed, all sizes	Lineal ft.	3,330	2,647	600	1,400	.....	7,977

TOTAL VALUE OF WORK ESTIMATED ON EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1915

SECTION	Subway construction	Sewer construction	Total
1.....	\$1,981,409 71	\$44,320 20	\$2,025,729 91
2.....	2,007,364 27	23,558 14	2,030,922 41
3.....	1,260,789 65	82,234 75	1,343,024 40
4.....	892,564 54	14,457 25	907,021 79
5.....	1,036,673 02	9,447 74	1,046,120 76

*Route No. 61.*— Under the modifying agreement for the construction of this route, work was begun in August. The construction shaft in Manhattan was sunk to subgrade and concreted, and a small building on the southeast corner of Avenue A and 60th street was underpinned. The contractor's power plant is located on private property, on the east and west sides of Avenue A, between 60th and 61st streets. The power house has been completed, and the installation of compressors is in progress. The engineer's and contractor's field offices have been built, and the placing of a permanent rip rap blanket in the west channel of the East river is in progress.

Excavation for the construction shaft on Blackwell's Island is in progress. A portion of the dock on the west shore of the island has been removed, and the rest of the dock was repaired in accordance with an agreement between the contractor and the Charities Department. The power house has been completed, and the installation of machinery is in progress.

Excavation has been completed for a working shaft in Queens, extending from the west building line of Vernon avenue eastward for a distance of 140 feet. A tunnel heading in the rock section was started and has advanced 100 feet. The contractor's power house was built, and the installation of compressors and other machinery is in progress. The contractor's and engineers' field offices have been built.

About 6 per cent of the total estimated value of the work is completed.

The work done under the principal items of construction of Route No. 61 and the total value of work estimated are shown in the following table:

Earth excavation .....	8,699 cu. yds.
Rock excavation .....	11,012 cu. yds.
Tunnel excavation .....	895 cu. yds.
Concrete .....	477 cu. yds.
Steel delivered .....	6 tons
Total value of work completed, as estimated . . . . .	\$239,621

**Sewer Work:**— *Route No. 5, Section No. 1.*— During the year 91 linear feet of sewers were built, making a total of 3,020 linear feet, and completing the work on this section.

The record drawings of sewers have been completed, and the sewers turned over to the President of the Borough of Manhattan for future maintenance and control.

*Route No. 5, Section No. 1-A.*— During the year there were constructed 42 linear feet of sewers, completing the sewer work on this section, or a total of 1,127 linear feet.

For this section record drawings also have been completed, and the sewers turned over for future maintenance and control to the President of the Borough of Manhattan.

*Route No. 5, Section No. 2.*— During the year 1915 sewer construction was completed on this section, and the sewers have since been turned over to the President of the Borough of Manhattan for maintenance and control.

The construction of the entrance to the City Hall station through the Woolworth building will involve the reconstruction of 125 linear feet of 15-inch sewer, at an estimated cost of \$2,500, plans for which have been prepared.

*Route No. 5, Section No. 2-A.*— The entire sewer work, a total of 1,479 linear feet, was completed during the year 1915, and the sewers have subsequently been turned over for maintenance and control to the Borough President.

*Route No. 5, Section No. 4.*— Sewer construction was completed in the vicinity of 12th street, completing the sewer work on this section. A total of 8,856 linear feet of sewers has been constructed on the section, of which 344 linear feet were built during the year.

Record drawings have been completed, and the sewers turned

over to the President of the Borough of Manhattan for future maintenance and control.

*Routes No. 4 & 36, Section No. 1.*—The sewers on this section were completed during the preceding year, but the restoration of a few catch basins along the line of the work has yet to be undertaken. Record drawings are now in course of preparation.

*Routes Nos. 4 & 36, Section No. 2.*—During the year 2,647 linear feet of sewers were constructed, which is the total to December 31, 1916, or 58.8 per cent of the entire sewer work of the section.

South of 30th street, on the east and west sides of Broadway, an additional 143 linear feet of 12-inch vitrified pipe sewer have been provided for house connections; and about 1,120 feet of cast-iron pipe sewers have been substituted for vitrified pipe and masonry sewers shown on the contract drawings.

*Routes Nos. 4 & 36, Section No. 3.*—During the year 600 linear feet of sewers were built, which is the total to December 31, 1916, or 10.9 per cent of the entire sewer work on this section.

The construction of the 46th Street relief sewer from Broadway to Eighth avenue has been completed under this contract. The remaining portion of this sewer from Eighth avenue to the outlet at the Hudson river is being built under a separate contract by the Manhattan Bureau of Sewers. Unforeseen difficulties have arisen in connection with this contract which will delay the completion of this sewer. Studies have therefore been prepared to provide temporarily an outlet for the new sewers on this contract into the existing sewerage system so as to make possible the completion of the subway structure as soon as possible.

This scheme will comprise a temporary pumping plant for dry-weather flow located in the construction shaft between Seventh and Eighth avenues. During storms the low-level sewers along Broadway from 43d to 49th streets, and along 46th street from Seventh to Eighth avenues, will act as an inverted sewer siphon discharging into the Eighth avenue sewer through which it will be carried into its original course, the 45th street sewer. The pumping plant will be capable of emptying the low-level sewers in about six hours after being flooded by storm water.

*Routes Nos. 4 & 36, Section No. 4.*— During the year 1,400 linear feet of sewers were constructed, which is the total to December 31, 1916, or 36.9 per cent of the entire sewer work of the section. About 900 linear feet of cast-iron pipe were substituted for vitrified pipe sewers shown on the contract drawings.

*Routes Nos. 4 & 36, Section No. 5.*— Sewer work on this section during the year was confined entirely to excavation.

The original contract having been modified by calling for a twin subway tunnel along 60th street, the sewers were adjusted to the subway changes. All sewer construction on East 59th street east of Fifth avenue was eliminated.

The drainage of the line at the southeast corner of Central park was taken care of by a new 4-inch circular sewer draining westerly for a distance of about 200 feet, thence into the existing 5-inch by 4-inch sewer in 50th street at grade, by means of a twin 1' 6" x 4' 6" sewer crossing under the subway, instead of four 20-inch cast-iron pipes originally provided. The limited space between the base of rail and the top of the twin sewer crossing necessitated special construction for the floor of the subway. Four cast-steel plates, 11' 6" x 6' 5" thick, with 1" x 3" ribs transversely, were used to carry the track load. These castings, each weighing about 7,000 lbs., were covered top and bottom with a minimum of two inches of concrete to protect them from corrosion.

The modified sewer arrangement will involve a total of 2,316 feet.

*Route No. 61.*— Sewer contract drawings and preliminary estimate were prepared during the year. There are about 410 linear feet of new sewers on this contract.

#### *Contracts for Station Finish and Track Installation*

The construction of Sections Nos. 1 to 4 of Route No. 5, having been completed, and the construction of Section No. 1 and the southerly portion of Section No. 2 of Routes Nos. 4 & 36 having reached a stage that would admit of commencing the station finish work and track installation, contracts were let for such work.

*Station Finish, Route No. 5, Sections Nos. 1 to 4.*— This contract comprises the construction of station finish in the Rector

Street, Dey-Cortlandt Street, City Hall, Prince Street, 8th Street and 14th Street stations. Contract awarded to D. C. Serber and assigned to Serber-Stander Company, Inc. Contract price, \$344,716.35.

Work was begun at the City Hall station on April 28. The Rector Street, Dey-Cortlandt Street and City Hall stations have been completed with the exception of the erection of ticket booths and railings, which work is in progress. At the remaining stations, the glazed tile work, plastering, granolithic floors, stairs, electrical work and painting are practically completed, and work on the remaining items, with the exception of the erection of ticket booths, is nearing completion.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work, all kinds.....	76,378 sq. ft.
Plastering . . . . .	38,803 sq. yds.
Cement finish . . . . .	145,657 sq. ft.
Concrete stairs . . . . .	10,001 lin. ft.
Common brick . . . . .	13,779 cu. ft.
Hollow tile . . . . .	20,585 cu. ft.
Electric conduits . . . . .	18,160 lin. ft.
Painting . . . . .	443,811 sq. ft.
Total value of work completed, as estimated . . . . .	\$166,084 66

*Station Finish, Routes Nos. 4 & 36, Sections Nos. 1 & 2.*—The station finish work on these two sections of Routes Nos. 4 & 36 combines the 23d Street and 28th Street stations. Contract awarded to Serber-Stander Company, Inc. Contract price, \$149,324.75. In this contract price is also included the station finish work in connection with the Canal Street subway, Route No. 20, Section No. 2.

Work on this contract as affecting Routes Nos. 4 & 36 was begun at the 23d Street station on October 25. At this station the hollow tile and brick work has been completed, and the glazed tile, plastering, granolithic floor, rough plumbing and electrical

work are in progress, some of the items being well advanced. At the 28th Street station the hollow tile and brick work is the only work begun.

The following tabulation gives the work done under the principal items of the contract with reference to these two stations, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Plastering . . . . .	3,650 sq. yds.
Cement finish . . . . .	82 sq. ft.
Concrete stairs . . . . .	228 lin. ft.
Common brick . . . . .	1,837 cu. ft.
Hollow tile . . . . .	2,859 cu. ft.
Electric conduits . . . . .	2,228 lin. ft.
Total value of work completed, as estimated . . . . .	\$5,326 52

*Track Installation, Route No. 5, Sections Nos. 1 to 4, and Routes Nos. 4 & 36, Sections Nos. 1 to 4.*—Contract for this work was let to the T. H. Reynolds Contracting Company, Inc. Contract price, \$288,400. In this contract is also included the track installation work covering Route No. 20, Section No. 2, and Route No. 33, Sections Nos. 1 and 2, and that portion of Section No. 3 of Route No. 33 to be operated by the New York Municipal Railway Corporation; the track installation on the remaining portion of this section, under operation by the Interborough Rapid Transit Company, having been let to Engel & Hevenor as herein previously referred to.

This track installation contract provides that the contractor shall begin the work within thirty days from the date of delivery of the contract, and shall lay and complete the tracks at a rate which will average 500 feet of single track per day, except that, if the Commission so elects, it may order the rate increased to 1,000 linear feet of single track per day.

Work was begun on September 11, 1916, and at the close of the year was in progress from the City Hall station to 19th street, and partially completed between Worth street and Prince street, making to date about 3,000 linear feet of track completed. The

subway structure is completed, ready for track installation, from a point in Trinity place about 50 feet north of Morris street to a point in Broadway near the south side of 31st street.

The following tabulation gives the work done under the principal items of this contract in connection with Sections Nos. 1 to 4 of Route No. 5, and Sections Nos. 1 to 4 of Routes Nos. 4 & 36, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Type I track .....	3,187 lin. ft.
Special work .....	\$4,929 50 lump sum
Total value of work completed, as estimated .....	23,182 26

#### FOURTEENTH STREET-EASTERN LINE, MANHATTAN AND BROOKLYN

**Plans:**— This is a two-track line extending from 14th street and Sixth avenue in Manhattan, under 14th street and the East river to North 7th street, Brooklyn; thence extending through North 7th street, Metropolitan, Bushwick and Johnson avenues, and private right of way to East New York at Broadway and Fulton street, Brooklyn. It is partly subway and partly an elevated line. It is known as Route No. 8, and is divided into six sections, Nos. 1 to 6 inclusive.

*Route No. 8, Section No. 1.*— A two-track subway under 14th street beginning at a point west of Sixth avenue and extending to Irving place. Date of contract, August 9, 1916. Booth & Flinn, Limited, contractors. Contract period, for completion of railroad ready for operation, 22 months, and for the entire contract, 26 months. Summary of contractor's bid, \$2,528,618.25.

The depth of subgrade varies from 42 feet at each end of the section to 48 feet at Fourth avenue, where the railroad is to pass beneath the existing Interborough rapid transit railroad. The railroad will also pass beneath the recently completed rapid transit railroad in Broadway, but at this location the undercrossing was provided in connection with the construction of Section No. 4, Route No. 5. The original contract plans also

contemplated the railroad to pass beneath the existing Hudson & Manhattan Railroad Company's railroad in Sixth avenue, with a station central to Sixth avenue. Subsequently, the routing has been modified, relocating the station between Fifth and Sixth avenues, and omitting the construction beneath and west of Sixth avenue, except to construct passageways beneath the existing structure in Sixth avenue to connect with the west platform of the 14th Street station of the Hudson & Manhattan Railroad.

The excavation, as indicated by the preliminary borings, is in sand, gravel and rock, the top of rock varying from 10 feet to 36 feet below the street surface. The section between Fifth avenue and University place is to be constructed in rock tunnel, and the remainder by the usual cut-and-cover method.

Working drawings for this section were well under way when the Commission in October, 1916, decided to stop the route on the easterly side of Sixth avenue in order to provide for a possible future extension south on Sixth avenue. The changes necessitated considerable revising of working drawings already issued.

*Route No. 8, Section No. 2.*— This is a two-track subway extending under 14th street from Irving place to a point east of Avenue A. Date of contract, August 10, 1916. Contractor, the Degnon Contracting Company. Contract period, 26 months. Summary of contractor's bid, \$1,972,349.

The depth of subgrade varies from 42 feet at the west end of the section to about 27 feet at Second avenue. As indicated by the preliminary borings the excavation is through coarse and fine sand, gravel, silt, quicksand, hard-pan and rock. Rock is only encountered near the west end of the section and varies from 15 feet to 28 feet below the street surface. The work is to be prosecuted by the cut-and-cover method.

The major portion of the working drawings, including the plans for the two stations on this contract, was issued during the year.

*Route No. 8, Section No. 3.*— This section, which comprises the river crossing, has two tracks in two cast-iron lined tunnels and extends from a point east of Avenue A, in Manhattan, to a point west of Bedford avenue, in Brooklyn. Date of contract,

February 29, 1916. Contractor, Booth & Flinn, Limited. Contract period, 40 months. Summary of contractor's bid, \$6,639,023.50.

Working drawings for the whole section have been practically completed, and shop drawings for the caisson shafts have been checked.

*Route No. 8, Section No. 4.*— Begins at a point under North 7th street in the Borough of Brooklyn, west of Bedford avenue, and extending thence easterly under 7th street, curves into Metropolitan avenue to a point west of Manhattan avenue. Contract awarded to Mason & Hanger Company, Inc., and assigned to Mason & Hanger-MacArthur Brothers, Inc. Date of contract, August 16, 1916. Contract period, 22 months. Summary of contractor's bid, \$1,847,174.40.

A special feature in the construction of this section is the provision made at Bedford avenue, and also at Roebling street, for a future crossing of a crosstown line, known as Route No. 55, and for a connection between the Bedford Avenue station of Route No. 8 and a future station on Route No. 55 at the above points.

Contract drawings, specifications and about 70 per cent of the working drawings have been completed, and about 25 per cent of the shop drawings has been checked.

*Route No. 8, Section No. 5.*— Begins at a point under Metropolitan avenue, west of Manhattan avenue, and extending thence easterly under Metropolitan avenue, curves under private property into Bushwick avenue to a point near the north line of Meserole street. Contract awarded to MacArthur Bros., and assigned to Mason & Hanger-MacArthur Bros., Inc. Date of contract, August 16, 1916. Contract period, 22 months. Summary of contractor's bid, \$1,336,949.85.

The subway passes under private property at the corner of Metropolitan and Bushwick avenues. At the present time this property is occupied by three-story frame buildings. The subway at this point was designed to provide for five-story buildings.

Contract drawings, specifications and about 75 per cent of the working drawings have been completed, and about 40 per cent of the shop drawings has been checked.

*Route No. 8, Section No. 6.*— This is a two-track elevated road, extending over Johnson avenue and the right of way of the Long Island Railroad to East New York at the intersection of the Broadway and Fulton Street lines, Brooklyn, where a connection can be made to these lines. Negotiations are under way with the Long Island Railroad for easement over its right of way. Preliminary studies and estimates have been made, and the preparation of contract drawings begun.

*Construction:— Route No. 8, Section No. 1.*— The contractor began work on this section near Irving place on September 1. Four derrick hoists were erected over shafts located on the north side of 14th street, west of Irving place, the east and west sides of Union square, and between Fifth and Sixth avenues. Excavation was begun early in October and is in progress in the vicinity of the four shafts. The work of by-passing the gas mains was practically completed.

About 1.1 per cent of the total estimated value of the work was completed.

*Route No. 8, Section No. 2.*— The work of by-passing the gas mains on this section was begun on September 20, and at the close of the year this work, which was the only work in progress, was completed.

*Route No. 8, Section No. 3.*— Excavation of the shaft in Manhattan, on East 14th street near Avenue D, was started August 1. The excavation was carried down 8 feet from the street surface when the erection of the caisson was begun. The caisson was to be sunk under compressed air in three sections. The first section, 32 feet in length, has already been erected and is now being sunk under compressed air. The contractor's power house is completed, and the assembling of the compressors and machinery is in progress. One high-pressure and three low-pressure compressors, together with the necessary pumps and connections, have been installed. The engineer's field office and the contractor's quarters were completed.

Excavation of the shaft in Brooklyn at the foot of North 4th street was started August 31 and carried down to a depth of 10 feet below the surface when the assembling of the caisson started was started. The contractor's power plant is located at North

7th street and Kent avenue. The power house was completed, and the assembling of the compressors and machinery is in progress.

About 8 per cent of the total estimated value of the work is completed.

*Route No. 8, Section No. 4.*—The work of construction was begun on August 29, 1916. A portion of the street, between Union and Manhattan avenues, on Metropolitan avenue, has been decked, and excavation started. A small amount of work on the underpinning of buildings has also been done.

About 1 per cent of the total estimated value of the work is completed.

*Route No. 8, Section No. 5.*—Work on this section was begun on August 29, 1916. A considerable portion of the street surface has been decked, and excavation is in progress. For a short distance westerly from Manhattan avenue, on Metropolitan avenue, the excavation has been carried down to the full depth. The by-passing of gas mains has been completed. The underpinning of buildings is also in progress at a number of locations.

About 8 per cent of the total estimated value of the work is completed.

The following tables give the work done under the principal items of construction on each section of Route No. 8, from the commencement of work to December 31, 1916, and the total estimated value of work completed during the same period:

WORK DONE UNDER THE PRINCIPAL ITEMS OF EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION TO DECEMBER 31, 1916

ITEM	Unit	Sec. 1	Sec. 2	Sec. 3	Sec. 4	Sec. 5	Total
<i>Subway construction</i>							
Earth excavation above M. H. W.	Cu. yds.	4,569		663	3,190	19,840	28,262
Earth excavation below M. H. W.	Cu. yds.			484			484
Underpinning buildings.	Lin. ft. ft.				192	1,061	1,253
Concrete.	Cu. yds.			208			208
Steel delivered.	Tons.			1,650		43	1,693
Steel erected.	Tons.			592			592
Cast-iron delivered.	Tons.			13,716			13,716
Street surface electric railroads maintained.	Lin. ft.					48	48
By-passing pipes upon or below surface (all sizes).	Lin. ft.	1,692	7,567		2,797	8,130	20,186
By-passing pipes on trestle.	Lin. ft.		446			588	1,034
Trestle for by-passing pipes.	Lin. ft.		486		820	1,282	2,588
<i>Sewer construction</i>							
Earth excavation.	Cu. yds.				60	930	990

TOTAL VALUE OF WORK ESTIMATED ON EACH CONTRACT, FROM BEGINNING OF CONSTRUCTION  
TO DECEMBER 31, 1916

SECTION	Subway construction	Sewer construction	Total
1.....	\$27,921 00	.....	\$27,921 00
2.....	39,221 32	.....	39,221 32
3.....	523,221 76	.....	523,221 76
4.....	23,099 35	\$174 00	23,273 35
5.....	105,712 40	2,325 00	108,037 40

**Sewer Work.**— *Route No. 8, Section No. 1.*— On this section there are about 2,520 linear feet of new sewers to be built. There was no sewer construction during the year.

*Route No. 8, Section No. 2.*— About 5,650 linear feet of new sewers are involved on this section. No sewer construction was undertaken during the year.

*Route No. 8, Section No. 3.*— There are 37 feet of sewers to be built on this section. At the request of the Sewer Bureau the twin 6' x 7' elliptical section will be changed to a twin 6' x 10' rectangular section to conform to the size of the 14th Street sewer to be reconstructed by the City.

*Route No. 8, Section No. 4.*— The contract provides for the construction of sewers of all classes, to the amount of 7,284 linear feet. No sewer construction undertaken during the year.

*Route No. 8, Section No. 5.*— On this section the contract provides for the construction of 6,680 linear feet of sewers of all classes. Construction not yet started.

#### FOURTH AVENUE SUBWAY, BROOKLYN

**Plans:**— This is a new subway trunk line in Brooklyn, which extends from the Manhattan bridge, under Flatbush Avenue extension, Fulton street, Ashland place and Fourth avenue to 86th street and Fourth avenue. It is a four-track line from the bridge to about 64th street and two-track south of that point, with such additional tracks as are necessary to facilitate operation to and from the various connections.

Provision is made on this line for a connection with the Whitehall Street-Montague Street line (Route No. 33) at Willoughby street; for the Brighton Beach connection (Route No. 12) near

St. Felix and Fulton streets; and at 38th street for the Gravesend Avenue line and the New Utrecht Avenue line (Routes Nos. 39 & 49, respectively) to Coney island. A connection is also made at 65th street with the company-built Sea Beach line to Coney Island, and provision for a future line near 67th street to the Borough of Richmond.

The Fourth Avenue subway is divided into eight sections, as follows: M-B-Ex-1, 9-C-1, 11-EA-1, 11-A-2, 11-A-3, 11-A-4, 11-B-1 and 11-B-2. The first six of these sections were practically completed prior to the signing of the Dual Subway Contracts. The plans for Sections Nos. 11-B-1 and 11-B-2 and certain changes in plan for Section No. 9-C-1 were completed prior to 1916.

*Route No. 11-B, Section No. 1.*— This is a four-track extension of the Fourth Avenue subway running from 40th street, under Fourth avenue, to 61st street. Contract let to Degnon Contracting Company on October 14, 1912, and later sublet to Carpenter, Boxley & Herrick. Contract period, 24 months. Summary of contractor's bid, \$1,904,171.25.

Most of the drawings for this section were completed prior to 1915, except drawings for a few minor details made to meet contingencies of construction, which were completed prior to 1916.

*Route No. 11-B, Section No. 2.*— This section extends under Fourth avenue from 61st street to 86th street. The contract was let to the Degnon Contracting Company on October 4, 1912, and thereafter sublet to Carpenter, Boxley & Herrick. Contract period, 24 months. Summary of contractor's bid, \$1,904,171.25. It has four tracks from 61st street to about 64th street, and two tracks south of that point. On this section is made the connection to the company-owned Sea Beach line. Provision is also made so as to facilitate the construction in the future of a connection to Staten Island.

The drawings for the work on this section were completed prior to 1915, except for a few details which became necessary to meet the contingencies of construction.

**Construction:**— *Route No. 11-B, Section No. 1.*— Work on this section has now been completed. As practically all work on the main subway structure was completed during 1915, the few

remaining items, such as backfilling and street restoration, were promptly completed upon the advent of suitable weather in the Spring of 1916.

*Route No. 11-B, Section No. 2.*— The work during 1916 consisted of repairs and placing of the permanent pavement, completing the entire contract. Operation over this entire contract was inaugurated January 15, 1916.

The following tabulation gives the work done under the principal items of construction on each section of Route No. 11-B from the beginning of construction to its completion, and the total estimated value of work completed:

ITEM	Unit	Section 1	Section 2	Total
<i>Subway construction</i>				
Earth excavation above M. H. W. ....	Cu. yds. ....	392,167	348,589	740,756
Rock excavation.....	Cu. yds. ....	2,690	183	2,873
Underpinning buildings less than 7 stories.....	Lin. frt. ft. ....	551	.....	551
Concrete.....	Cu. yds. ....	58,824	55,729	114,553
Waterproofing (single ply).....	Sq. yds. ....	121,870	144,710	266,580
Brick in asphalt mastic.....	Cu. yds. ....	1,916	1,325	3,241
Tunnel and railroad ducts.....	Duct ft. ....	408,102	297,463	705,565
Steel delivered.....	Tons.....	7,484	7,377	14,861
Steel erected.....	Tons.....	7,467	7,377	14,844
Street surface restored.....	Sq. yds. ....	37,754	33,795	71,549
<i>Sewer construction</i>				
Earth excavation.....	Cu. yds. ....	9,537	22,079	31,616
Concrete.....	Cu. yds. ....	198	283	481
Sewers constructed, all sizes.....	Lin. ft. ....	4,980	8,805	13,785
		Subway construction		Sewer construction
Section 1, total value of work completed, as estimated.....		\$1,830,665 95		\$42,661 15
Section 2, total value of work completed, as estimated.....		1,733,480 15		91,290 00

**Sewer Work:**— *Route No. 11-B, Section No. 1.*— Sewers of all sizes and classes, to an amount of 4,980 linear feet, were completed in connection with the construction under this contract. 477 feet having been built in 1916.

The record drawings of completed sewers have been prepared and the sewers have been turned over to the President of the Borough of Brooklyn for future maintenance and control.

*Route No. 11-B, Section No. 2.*— This contract includes the construction of 8,805 linear feet of sewers, which work was com-

pleted upon the completion of the regular contract, 162 feet having been built in 1916.

Record drawings were also prepared of sewers completed on this section, and the Borough President requested to accept them for future maintenance.

*Contracts for Station Finish and Track Installation  
Fourth Avenue Subway*

*Station Finish, Route No. 11-B, Sections Nos. 1 and 2.*—The station finish work on these sections was completed in the Spring of 1916, and all stations placed in operation during the year.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to its completion, and the total estimated value of work completed:

Tile work, all kinds.....	70,900 sq. ft.
Marble . . . . .	7,992 sq. ft.
Plastering . . . . .	38,125 sq. yds.
Cement finish . . . . .	14,000 sq. yds.
Concrete stairs . . . . .	15,277 lin. ft.
Common brick . . . . .	378 cu. yds.
Electric conduits . . . . .	25,699 lin. ft.
Hollow tile . . . . .	741 cu. yds.
Painting . . . . .	51,866 sq. yds.
Total value of work completed, as estimated . . . . .	\$244,833.86

*Track Installation, Lines A and F.*—As recorded in the report for the year 1915, the contract for this work was completed with the exception of a part of Special Work Portion No. 6, near the north end of the DeKalb Avenue station.

Because of the fact that the reconstruction of Section No. 9-C-1, under contract with Samuel Beskin, was in progress, it was impracticable to install this special work, and because it would probably not be required for some time arrangements were made with the New York Municipal Railway Corporation to store the materials adjacent to that location, pending the time when the track would be required for service. This and other minor items under contract with the Thomas Crummins Contracting Company were completed in May, 1916.

A portion of the tracks installed under the contract was put in operation in June, 1915, and the remainder in January, 1916.

The total value of the work completed, as estimated, was \$216,896.61.

*Section No. 9-C-1.—Reconstruction.*—As was explained in the 1915 report the contract for this work, which was let to Samuel Beskin, at a contract price of \$133,947.46, required the reconstruction of a portion of Section No. 9-C-1 of the Fourth Avenue subway, lying under Flatbush avenue extension between Willoughby street and DeKalb avenue, providing for the installation of additional crossovers between these tracks to allow of express operations. At the close of 1915 but a small amount of work remained to be completed, which included the construction of a manhole, circuit breaker chamber on the roof, backfilling, restoration of street surface and some small station finish items. This work is now entirely completed.

The following tabulation gives the work done under the principal items, from the beginning of construction to the completion of the contract, and the total value of work estimated:

Earth excavation above M. H. W.	11,128 cu. yds.
Earth excavation below M. H. W.	191 cu. yds.
Steel delivered and erected.....	379 tons
Concrete . . . . .	1,454 cu. yds.
Waterproofing . . . . .	3,593 sq. yds.
Ducts . . . . .	19,075 duct f.
Street surface restored . . . . .	1,637 sq. yds.
Total value of work completed, as estimated . . . . .	\$116,096.62

**Sewer Work:**—*Section No. 9-C-1.—Reconstruction.*—The contract required the reconstruction of 27 feet of 12-inch vitrified pipe sewers, and the construction of two manholes, all of which have been completed.

#### WHITEHALL STREET-EAST RIVER-MONTAGUE STREET LINE

**Plans:**—This is a two-track subway connecting the Broadway 59th Street subway with the Fourth Avenue subway in Brooklyn. It extends from Trinity place and Morris street under private



MONTAGUE STREET TUNNEL LINE. TIMBERED SECTION IN HEAVY ROCK





MONTAGUE STREET TUNNEL LINE. ERECTION OF IRON LINING NEAR WHITEHALL STREET





property, Whitehall street and the East river to Montague street, Brooklyn, thence under Montague, Fulton and Willoughby streets to Flatbush avenue extension. It is known as Route No. 33, and is divided into three contract sections, Nos. 1, 2 and 3.

*Route No. 33, Section No. 1.*—This section extends from Trinity place and Morris street under private property crossing under Broadway and Bowling Green to and under Whitehall street to South street. Contractor, Flinn-O'Rourke Co., Inc. Contract executed June 17, 1914. Contract period, 32 months. Summary of bid, \$2,059,182.

Working drawings and checking of shop drawings have been practically completed during the year.

*Route No. 33, Section No. 2.*—This section extends from the foot of Whitehall street, Manhattan, to a point under Montague street, Brooklyn, between Henry and Clinton streets. A spur for future connections runs from the foot of Broad street and connects with the main line at the Manhattan pierhead line. The contract calls for two single-track, cast-iron lined tubes to be driven from headings located on both sides of the river. In addition to the single-track tubes, the work also includes the construction of two permanent ventilating shafts, one on each side of the river, to be sunk as caissons. Contractor, Flinn-O'Rourke Co., Inc. Date of contract, June 17, 1914. Contract period, 32 months. Summary of contractor's bid, \$5,974,809.50.

Practically all working and shop drawings have been approved. The design for the pump and feeder chambers has been changed from cast iron to steel and concrete construction.

For the construction of this line, property was acquired at the foot of Montague street. This property has now been transferred to the Dock Department, which department will have a pier constructed over the tubes for its protection.

*Route No. 33, Section No. 3.*—For convenience of construction, this section includes the connection under Fulton street, Brooklyn, from the new subway in Clark street, Route No. 48, Section No. 3, to the First Subway at Willoughby street, and also the extension of the new line under Montague, Fulton and Willoughby streets from Clinton street to a junction with the Fourth Avenue subway at Flatbush avenue extension. Flinn-O'Rourke

Co., Inc., contractor. Date of contract, October 9, 1914. Contract period, 36 months. Summary of contractor's bid. \$4,395,152.

This contract covers the construction of two single-track, cast-iron-lined, shield-driven tubes for the New York Municipal Railway line, and two similar tubes between Clinton and Pierrepont streets, and a double-decked steel bent and concrete structure in Fulton street between Pierrepont and Willoughby streets for the Interborough Rapid Transit connections.

The working drawings for this section have been completed except for the entrances to the Borough Hall station and the Court Street station. Shop drawings have been approved for approximately 90 per cent of the work.

The location of the north tube at the Brooklyn Citizen building was changed so as to bring the tube within 2 feet of the south tube, in order to reduce the encroachment on private property to a minimum, and on June 29, 1916, the City acquired the necessary easement in the property for the construction and maintenance of the tunnel.

**Construction:** — *Route No. 33, Section No. 1.* — From the south end of this section to and including the Whitehall Street station, and between the south side of Bowling Green and the west side of Broadway, the excavation is in tunnel. The portion between the north end of the station and Bowling Green and in Morris street and Trinity place is prosecuted by the cut and cover method, and the work within private property, between Broadway and Morris street, is constructed in open cut.

Excavation of the two single-track rock tunnels, connecting with the East River tubes at the south end of the section, was continued and the concrete lining placed from the south end of the section for a distance of 95 feet in the east tunnel and of 63 feet in the west tunnel. In the next succeeding section, about 75 feet in length, reaching nearly to Front street, the transformation is made from a two-track to a three-track structure by a single span arch construction; a drift of varying width and of the full height of the section was excavated connecting the easterly tunnel from the south with the bottom heading on the line of the middle track to the north. The excavation for the Front street



MONTAGUE STREET TUNNEL LINE. LAWRENCE STREET FAN CHAMBER AND TUNNEL TUBES





MONTAGUE STREET TUNNEL LINE. TIMBERED ROCK TUNNEL WITH CONCRETE  
INVERT READY FOR CAST-IRON LINING



mezzanine at the south end of the Whitehall Street station was in progress during the latter half of the year.

Tunneling of the Whitehall Street Station section was continued in rock from the south end of the completed cut and cover excavation at Stone street. The station is of the steel bent and concrete design, the transverse roof girders spanning the tracks being supported on the side walls on each side and upon lines of intermediate longitudinal girders which are supported on steel columns along the lines of the two island platforms. The steel structure is of unusually heavy design to provide proper support on account of the great depth of the overlying material. The method employed in constructing the station consists in the excavation of a center drift on the line of the middle track, the full height of the section, and of sufficient width to admit of the erection of the platform columns on either side of the track. Upon the erection of these columns and the corresponding longitudinal and transverse roof steel, the roof concrete is poured, and the space between the roof and the rock is packed with concrete blown in place by a compressed air mixing plant. When the overlying material is caught up in this way on the completed portion of the structure, the excavation is opened on either side to the full width of the structure in order to erect the structure on the two outside tracks, the completed excavation being followed up as closely as practicable with the erection of the permanent structure in order to reduce to a minimum the area of unsupported excavation. Excavation for the middle track has been completed for a length of 400 feet, and for the east and west tracks for lengths of 310 feet and 220 feet, respectively.

In the cut and cover section immediately north of the station, the excavation of which was completed last year, steel and concrete construction was in progress during the last three months; and in the twin tunnel section between Stone street and the west side of Broadway the structure was completed, including the undercrossing of the existing Interborough Rapid Transit Railroad.

Through the private property between Broadway and Morris street the structure was completed for a distance of 135 feet northerly from Broadway, and in the cut and cover section in

Trinity place the shoring of the elevated railroad structure was completed and the upper lift of excavation taken out.

Only moderate progress was made on this section during the year as evidenced by the following percentages of completion of the principal items of the work:

	Per cent
Excavation . . . . .	66.6
Concrete . . . . .	32.7
Steel delivered . . . . .	85.5
Steel erected . . . . .	45.4
Waterproofing . . . . .	18.4
Underpinning . . . . .	34.2

About 55.2 per cent of the total estimated value of the whole work is completed.

*Route No. 33, Section No. 2.*— On the Manhattan side of the river work was in progress throughout the year on tunneling and placing of cast-iron lining in the excavated portion of the tunnel. Tunneling proceeded from two shafts; one a construction shaft at the foot of Whitehall street and one a permanent shaft at the foot of Broad street. Except for a short stretch of tunnel, west of the shaft, the Broad Street line has been completely excavated and the greater portion of it lined with cast iron. The Whitehall Street line has been carried under Coenties reef and its progress temporarily stopped, due to Government dredging and blasting operations overhead. Erection of the iron lining is in progress. The cross drift connecting the Broad Street and Whitehall Street lines has been completely excavated, and the placing of concrete lining is in progress.

Tunneling operations on the Brooklyn side of the river were in progress throughout the year in both directions, from the shaft located at the foot of Montague street. Four shields were used for the four headings. The land headings reached the end of the section early in July, while the river headings entered the rock under the middle of the river and are now about 800 feet from the Manhattan headings. Except for a short portion under Montague street, where the tunnels are above ground water, compressed air has been employed throughout the year with a maximum pressure of 33 pounds per square inch.



**MONTAGUE STREET TUNNEL LINE. TIMBERED TOP HEADING — REMOVAL OF ROCK BENCH IN PROGRESS**



The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	75.8
Concrete . . . . .	25.2
Steel and cast iron delivered . . . . .	95
Steel and cast iron erected . . . . .	69

About 70 per cent of the total estimated value of the work is completed.

*Route No. 33, Section No. 3.*— In Willoughby street, at Flatbush avenue extension, excavation has been completed, and connection with the Broadway-Fourth Avenue subway is in progress. The north shield-driven tunnel now extends from Flatbush avenue extension to a point under Montague street, 268 feet west from the east curb line of Clinton street. The south shield-driven tunnel has been driven from Flatbush avenue extension to a point under Montague street, 115 feet east from the east curb line of Clinton street. The work of lining the tubes with concrete has been in progress between Flatbush avenue extension and the Lawrence street fan chamber. This fan chamber, 265 feet in length, at present under construction, is for the purpose of providing ventilation, and also to serve as a crossover between tunnels.

The tunnels of the Park Place, William and Clark Street subway (Route No. 48), connecting with this section at Clark and Fulton streets, advancing eastward on Clark street from the river, crossed the section line on Fulton street during October. The east tunnel has been driven to a point 200 feet south of Clark street. Excavation for the Borough Hall station and the north and south approaches was begun and is now in progress over the entire length between Pierrepont and Willoughby streets. In the vicinity of Pierrepont street the erection of steel bents and the placing of concrete are in progress. The underpinning of "L" columns has been 79 per cent completed. Excavation for mezzanine and shaft at the west entrance of Montague Street station has been completed. Excavation for the east entrance for the same station is in progress.

The percentages of the principal items of work completed as follows:

	Per cent
Excavation . . . . .	71
Concrete . . . . .	16.6
Steel and cast iron delivered . . . . .	89
Steel and cast iron erected . . . . .	65.5
Waterproofing . . . . .	17

About 62 per cent of the total estimated value of the work completed.

The following tabulation gives the work done under the principal items of construction on each section of the White Street-East River-Montague Street line, Route No. 33, from the beginning of construction to December 31, 1916, and the estimated value of work completed during the same period:

ITEM	Unit	Section 1	Section 2	Section 3	Total
<i>Subway construction</i>					
Earth excavation above M. H. W. . . . .	Cu. yds. . . . .	15,380	1,080	77,502	93,962
Earth excavation below M. H. W. . . . .	Cu. yds. . . . .	20,040	4,349	4,261	28,650
Rock excavation . . . . .	Cu. yds. . . . .	13,660	1,561	.....	15,221
Underpinning buildings 7 to 12 stories . . . . .	Lin. frt. ft. . . . .	344	445	686	1,475
Tunnel excavation . . . . .	Cu. yds. . . . .	33,910	124,888	54,985	213,783
Concrete . . . . .	Cu. yds. . . . .	12,585	10,746	7,363	30,694
Waterproofing . . . . .	Sq. yds. . . . .	3,940	203	2,399	6,542
Steel delivered . . . . .	Tons . . . . .	4,190	1,886	1,373	7,449
Steel erected . . . . .	Tons . . . . .	2,224	1,517	1,585	5,326
By-passing pipes upon or below surface (all sizes) . . . . .	Lin. ft. . . . .	1,135	.....	2,139	3,274
<i>Sewer construction</i>					
Earth excavation . . . . .	Cu. yds. . . . .	400	.....	.....	400
Sewers constructed, all sizes . . . . .	Lin. ft. . . . .	55	.....	.....	55

	Tunnel and subway construction	Sewer construction
Section 1, total value of work completed, as estimated . . . . .	\$1,134,522 75	\$1,475,000 00
Section 2, total value of work completed, as estimated . . . . .	4,228,964 35	.....
Section 3, total value of work completed, as estimated . . . . .	2,154,585 59	.....

**Sewer Work:**—Route No. 33. Section No. 1.—About 40 linear feet of sewer were constructed during the year, making a total of 55 linear feet to December 31, 1916, or 10 per cent of the sewer work on this section.



MONTAGUE STREET TUNNEL LINE. COLLAPSIBLE STEEL FORMS FOR SIDE-WALL CONCRETE







MONTAGUE STREET TUNNEL LINE. PLACING OF CONCRETE LINING IN PROGRESS



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*Route No. 33, Section No. 2.*— The construction of the sewer overflow at Broad and Nassau streets has been abandoned, which will eliminate all sewer construction on this contract. The object of this overflow was to take the increased discharge from about six acres which would be added into the Broad street sewer by intercepting the sewers along Maiden lane and Pine street on the west side of Nassau street in connection with Route No. 45, Section No. 1. The work of preparing the latter contract has been suspended and the construction of the overflow can be included therein at a later date.

*Route No. 33, Section No. 3.*— Peculiar real estate conditions along Montague street from Clinton street to Court street presented difficulties in the arrangement of the station mezzanine entrances and other subway appurtenances. Studies were consequently made for the rearrangement of sewers to accommodate the main structure. This readjustment will involve about 290 linear feet of additional 3' 6" x 2' 4" off-line sewer in Court street south of Montague street.

About 1,130 linear feet of various sizes of new sewer have been added, replacing old sewers which come within the actual net lines of cut and cover excavation, making a grand total of 2,700 linear feet of new sewers involved in this contract. No sewer construction has been done during the year.

**Track Installation:** — *Route No. 33, Sections Nos. 1, 2 and 3.* — Contract for the installation of tracks covering that portion of Section No. 3 to be operated by the New York Municipal Railway Corporation, as has been previously referred to, was let to the T. H. Reynolds Contracting Company, which contract includes also the track installation work covering Sections Nos. 1 and 2 of this route. The work of track installation on the portion of Section No. 3 to be operated by the Interborough Rapid Transit Company, to which reference also previously has been made, was let to Engel & Hevenor.

Surveys are now being made to obtain the information required in giving the lines and grades of the tracks. Requisition has been made for part of the track materials which are to be furnished by the Commission's material contractors, and the deliveries are now being made.

## NEW UTRECHT AVENUE LINE

**Plans:**—This is a three-track extension of the Fourth Avenue subway, from about 38th street to Coney Island. It extends easterly in a cut between 37th and 39th streets to a point near Tenth avenue, where the tracks ascend to an elevated structure, extending thence over Tenth avenue and New Utrecht avenue to 81st street, over private property, to 86th street, and thence over 86th street and Stillwell avenue to a connection at Avenue Y with New York Municipal tracks to Coney Island. This is known as Route No. 39, and is divided into two sections, Nos. 1 and 2. A connection is provided on this line for the Gravesend Avenue line.

*Route No. 39, Section No. 1.*—The connection for this line from the Fourth Avenue subway was shifted from 40th street at the request of the New York Municipal Railway Corporation. That required the reconstruction of a portion of the subway on Fourth avenue between 33d and 38th streets. For convenience this work is included with Route No. 39, Section No. 1. Provision is made on this section also for connection with the Gravesend Avenue line. Under the Dual Contracts, the right of way through which this section runs was turned over to the City for the construction of a rapid transit line which will replace the present service. The company proposes also to build a large yard in the vicinity and make a connection with the Fifth Avenue Elevated line. On account of the necessity of doing the work under traffic conditions and the difficulty of separating construction work, the company, in a supplemental agreement with the City, undertook to do the work of this section at cost. With the approval of the Commission, Jacobs & Davies, Inc., were made construction engineers for the work. This work was begun on February 13, 1914, and was executed on a force account basis at a cost of about \$3,000,000. The connection of Jacobs & Davies, Inc., with the work terminated in October, 1915.

Plans were completed during the year 1915.

*Route No. 39, Section No. 2.*—This a three-track elevated railroad structure extending over Tenth and New Utrecht avenues from 39th to 81st streets; thence over private right of way to 86th street; thence along 86th street and Stillwell avenue to



FOURTH AVENUE SUBWAY. TYPICAL DETAILS OF STATION FINISH AND TRACK CONSTRUCTION





NEW UTRECHT AVENUE LINE. ERECTING STEEL DIRECT FROM CARS



Avenue Y where connection is made with the New York Municipal Railway tracks to Coney Island. Post & McCord, Inc., contractors. Date of contract, December 31, 1913. Contract period, 18 months, extended to June 1, 1916. Summary of contractor's bid, \$1,672,190. Total cost of contract, \$1,682,040.03.

Working drawings were completed prior to 1916.

An agreement has been entered into between the City, acting by the Commission (with the approval of the Board of Estimate and Apportionment), and the Nassau Electric Railway Company for moving the tracks of that company from the side to the center of New Utrecht avenue between 39th and 81st streets. Moving the tracks and grading between the tracks is included in the work to be done under this agreement. The cost of work is to be divided equally between the City and the Nassau Electric Railway Company. The contract, contract drawings and construction drawings have been prepared, and it is expected that the contract can be advertised in the early part of 1917.

**Construction:—Route No. 39, Section 1.**—On June 16, a new contract was let by the New York Municipal Railway Corporation to Ward & Tully, Inc., to cover all items of work left uncompleted under the contract with Jacobs & Davies, Inc., in order to convey the Fifth Avenue elevated trains into the new structure, and make it possible to transfer passengers from the Culver Line trains to the Fourth Avenue Subway trains at the Ninth Avenue station.

A new subcontract has been let to John Thatcher & Son for building a fence enclosing the entire cut from Fifth to Tenth avenues, and from the south house line of 37th street to a point midway between 38th and 39th streets. This will complete all work on Route No. 39, Section No.1, with the exception of the Ninth Avenue crossing, which is still under consideration by the Board of Estimate and Apportionment due to a prospective change in grade of adjoining streets.

Operation in the 38th street cut started on June 24, 1916, in connection with the operation of the elevated line on New Utrecht avenue, together with the diversion of the Culver Line traffic through the lower level of the Ninth Avenue station, which diversion of traffic took place on June 24, 1916.

*Route No. 39, Section No. 2.*—The restoration of overhead wires during 1916 completed the work incident to the construction of this contract.

The following tabulation gives the work done under the principal items of construction, on each section of the New Utrecht Avenue line, Route No. 39, from the beginning of construction to its completion, and the total estimated value of work completed

ITEM	Unit	Section 1	Section 2	Total
<i>Subway and elevated construction</i>				
Earth excavation above M. H. W. ....	Cu. yds. ....	326,900	50,442	377,342
Underpinning buildings less than 7 stories ....	Lin. ft. ....	25		82.8
Concrete .....	Cu. yds. ....	71,477	11,395	82,872
Waterproofing (single ply) .....	Sq. yds. ....	98,900		98,900
Tunnel and railroad ducts .....	Duct ft. ....	408,300	50,844	459,144
Steel delivered .....	Tons. ....	6,240	28,283	34,523
Steel erected .....	Tons. ....	6,240	28,283	34,523
Street surface restored .....	Sq. yds. ....	9,388	2,937	12,325
<i>Sewer construction</i>				
Earth excavation .....	Cu. yds. ....	4,377	307	4,684
Sewers constructed, all sizes .....	Lin. ft. ....	2,332	111	2,443

	Subway construction	Sewer construction
Section 1, total value of work completed, as estimated .....	\$2,833,852 00	\$16,643
Section 2, total value of work completed, as estimated .....	1,680,047 88	1,992

**Sewer Work:**—*Route No. 39, Section No. 1.*—Sewer work on this section included the construction of 2,332 linear feet of sewers, all of which has been completed, and the sewers formally turned over to the President of the Borough of Brooklyn for future maintenance and control.

*Route No. 39, Section No. 2.*—Sewer work on this section necessitated by interference of column footings with the existing sewers, included the reconstruction of 2 manholes, 9 receiving basins and inlets, and also the reconstruction of 111 feet of 30-inch by 20-inch cement pipe sewer, all of which was completed at the same time as the regular construction work.

**Station Finish:**—*Route No. 39, Section No. 1.*—The station finish work on the 38th Street station in Fourth avenue, and on the Ninth Avenue station in the 38th street cut, was completed during 1916, and operation over this contract was in effect.

*Route No. 39, Section No. 2.*—The work of station finish on this section was somewhat retarded during the year, owing to the unusual conditions which existed in the labor, material and freight markets. By the construction of a considerable amount of temporary station finish work, it was possible to start temporary operation over the New Utrecht Avenue line as far south as the 62d Street station within several months of the time originally anticipated. This temporary operation was later extended to the Twenty-fifth Avenue station on this line on July 29, 1916. It is anticipated that the work under this contract will be completed early in 1917.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

Tile work, all kinds.....	5,900 sq. ft.
Concrete.....	3,096 cu. yds.
Stairway.....	5,780 lin. ft.
Canopies.....	121,420 sq. ft.
Windscreens.....	5,155 lin. ft.
Mezzanine enclosure walls..	18,830 sq. ft.
Electric conduit.....	25,545 lin. ft.
Plumbing.....	\$6,412.04 lump sum
Total value of work completed, as estimated.....	\$239,320.00

**Track Installation:**—*Route No. 39, Section No. 2.*—The work of track installation on this section was completed in the Summer of 1916, at which time the two local tracks were placed in use.

The following tabulation gives the work done under the principal items, from the beginning of construction to the completion of this contract, and the total estimated value of work completed during the same period:

Type III track.....	68,166 lin. ft.
Special work.....	\$5,300.00 lump sum
Total value of work completed, as estimated.....	63,436.90

## GRAVESEND AVENUE LINE

**Plans:**— This is a three-track elevated line. It begins at a point near Tenth avenue and 37th street in the Borough of Brooklyn, where it connects to a spur from Fourth avenue. It continues thence along private property south of 37th street into Gravesend avenue, and thence over Gravesend avenue to Coney Island. A change was made in the line between Tenth avenue and Fort Hamilton parkway to avoid depressing the surface tracks of the South Brooklyn Railroad Company, originally proposed in the plans furnished by Messrs. Jacobs & Davies, Inc., Consulting Engineers for the City and the New York Municipal Railway Corporation. This was effected by deflecting the line to the south of the right of way of the above company, over private property which was acquired at this point. The saving resulting from this change will amount to over \$100,000. This route is known as Route No. 49, and is divided into four sections, Nos. 1-A, 1, 2 and 3.

*Route No. 49, Section No. 1-A.*— This is a short section beginning at a point at the west building line of Tenth avenue between 37th and 38th streets, in the Borough of Brooklyn, extending thence, between retaining walls in open cut and on fill over Tenth avenue and private property, to a point on private property about 370 feet east of the east building line of Tenth avenue, where the retaining walls end in an abutment. A slight modification in the alignment of the existing subway tracks was made necessary immediately west of Tenth avenue, on account of the revised location of this section. A temporary connection had been made at Tenth avenue between the tracks of the South Brooklyn Railway and the Fourth Avenue spur, permitting the Culver Line surface trains to be operated through the Ninth Avenue station.

Contract drawings and specifications for this section have been completed. Bids received November 29, 1916. Contract awarded to Thomas Dwyer.

*Route No. 49, Section No. 1.*— This section begins in private property on the south side of 37th street at the abutment of Section No. 1-A, east of Tenth avenue in the Borough of Brooklyn, and continues thence, over private property parallel to 37th street, to Gravesend avenue, and thence southerly over Gravesend avenue

point south of Twenty-second avenue produced. Post & Ord, Inc., contractor. Date of contract, September 8, 1915. Contract period, 15 months. Summary of contractor's bid, \$959.

This contract involves shifting laterally the tracks of the South Brooklyn Railway, and a rearrangement of the sidings to accommodate the revised location and the elevated structure. Special alignment drawings were made for this work and additional clearances and clearance diagrams to meet the legal requirements of condemnation proceedings. Subsequent to vesting title in the City a supplementary agreement as to the alignment drawings was made between the City and the South Brooklyn Railway under which the surface tracks are now being relocated.

The plans provide for an express station at Eighteenth avenue, and for five local stations. Three of the stations are on a 5 per cent grade. Four of the stations have two mezzanines each, one at each end. On account of duct and pipe interference, special footings had to be provided for about 35 per cent of the columns. Between Twenty-seventh street, from Fourteenth avenue to Gravesend avenue has not been opened, and in order to avoid the expense of acquiring property, the duct line was deflected through New Lots road and 38th street to West street.

This section was changed west of Fort Hamilton parkway to avoid depressing the surface tracks of the South Brooklyn Railway.

A reverse curve was introduced between Fort Hamilton station and the abutment at the end of Section No. 1-A. A special arrangement was made at this point to enable the surface tracks to pass under the structure, to permit of connections to existing sidings and provide clearance for future connection between the surface tracks and the structure of Route No. 49.

The working drawings have been completed, and the shop drawings checked, for this section.

*Route No. 49, Section No. 2.*— This section begins at a point in Gravesend avenue, in the Borough of Brooklyn, south of the intersection of Twenty-second avenue produced, and extends thence easterly over and along Gravesend avenue to a point near Avenue Oscar Daniels Company, contractor. Date of contract, July 1915. Contract period, 18 months. Summary of contractor's bid, \$863,775.

The plans provide for an express station at Kings Highway, and for four local stations. One of the stations is on a 5 per cent grade. Four of the stations have two mezzanines each, one at each end. On account of duct and pipe interference, special footings had to be provided for about 55 per cent of the columns.

The working drawings for this section have been completed, and shop drawings checked.

*Route No. 49, Section No. 3, Connection to Coney Island Terminal.*—Contract No. 4 provided that the construction of Route No. 39, Section No. 2, over Stillwell avenue between Avenue X and Surf avenue and the construction of Section No. 2 of Route No. 49 from Avenue X to Surf avenue could be temporarily suspended if the New York Municipal Railway Corporation provided access for those lines to their Coney Island terminal over the existing right of way. The company has not availed itself of this option for Route No. 49 in its entirety.

This section will provide the connection to the Coney Island terminal. It begins at a point in Shell road south of Avenue Z and extends thence southerly over and along Shell road and West 6th street to a point near Sheepshead Bay road, from which point an extension is to be made over private property to connect to the Coney Island terminal of the New York Municipal Railway line. Section No. 3 is to be advertised for bids and constructed by the City, while the above-mentioned extension is to be constructed by the New York Municipal Railway Corporation. The plans provide for a local station centered on Neptune Avenue, north of Sheepshead Bay road, having an island platform and a single mezzanine at the center. For the time being the express track is to terminate at a point about 300 feet south of Avenue Z where it connects to the local tracks. It is the intention to install the express track from this point southward at some future time. Provisions have been made in the plans for a possible installation of this portion of the express tracks which is to climb up and pass over the island platforms at Neptune Avenue station and thence down again to the lower track level, connecting with the local tracks at some point between Sheepshead Bay road and the Coney Island terminal.

The topography along the route is such as to require special consideration in the design of the structure. The route as planned

cross both Coney Island creek in its natural bed and the proposed artificial waterway to be known as Gravesend Ship Canal, is to be situated about 500 feet to the south of the creek. It makes it necessary to provide a structure to accommodate the existing conditions at the creek and the possible future conditions at the proposed canal. Accordingly, plans are being prepared to show an 80-foot span over the deeper portion of the creek and 50-foot spans over the remaining portion, the creek being 160 feet wide at this point. This necessitates placing six spans in the creek, situated near the curb lines produced, and of general dimensions as to avoid interference with the timber trestle bridge now in place. The construction at the proposed canal is to consist of two 95-foot clear spans, with a bent at the center of the canal, and two towers 10 feet wide at the shore ends of the spans, the canal being 200 feet wide. The piers for the bent, being 39 feet apart transversely, are to be so constructed that they can be incorporated in one long pier should the need be constructed at some future time. At both these crossings a clear headroom of 26 feet above mean sea level datum at Hook, as established by the U. S. Coast and Geodetic Survey, is to be provided for. This is in accordance with the stipulations by the Harbor Line Board, at a public hearing held July 16. It was agreed by the Commission, in the event that requests were made by the War Department, after a canal had been constructed, to remove the fixed spans over the proposed canal and substitute instead a movable bridge.

West 6th street is a 70-foot street with a 36-foot roadway which requires a transverse spacing of elevated columns 39 feet 4 inches. This spacing was maintained throughout, although West 6th street is 60 feet wide and would normally have a spacing of columns of about 32 feet. It was thought advisable to space the columns in this manner owing to the existence of a street railway on West 6th street from Neptune avenue, north, to Neptune avenue, south, in order to increase the traffic capacity of the roadway.

The contract drawings and specifications for this section have been completed.

**Construction:**—*Route No. 49, Section No. 1.*—Work on the construction of column footings was begun on October 25, 1915,

at the south end of the section, and this work has been complete. Steel erection has commenced, having begun on September 1, 1916, a double-boom steel traveler being used to raise the steel directly from the delivery cars.

In connection with the construction of the elevated structure there is being built a railroad duct line comprising a bank of twenty-eight single ducts, its route being along 37th street from Fort Hamilton avenue to New Utrecht road, thence by way of New Utrecht road, 38th street, West street and Ditmars avenue to Gravesend avenue, and along Gravesend avenue to the south end of the section. The original location of the duct line showed the same running along 37th street between New Utrecht road and West street. The location of this portion of the duct line has been changed as shown by the foregoing route, on account of 37th street not having been legally opened. Work on this duct line was begun on April 18, 1916, at the south end of the section, and has been completed to a point near Thirteenth avenue on 37th street.

The center line of the existing Culver Line surface tracks between Tenth and Gravesend avenues, not being coincident with the center line of the structure to be built, a shifting of these surface tracks to a new position was required. This work, which was done by the Transit Development Company as subcontractor for Post & McCord, Inc., was begun on September 29, 1916, after obtaining the consent of the South Brooklyn Railway Company to enter upon its property, which consent having been obtained enabled the work to be more rapidly advanced, and it is now completed.

The percentages of the principal items of work completed are as follows:

	Per cent
Excavation . . . . .	78
Concrete . . . . .	59
Railway ducts . . . . .	69
Steel delivered . . . . .	64
Steel erected . . . . .	32

About 52 per cent of the total estimated value of the work has been completed.

*No. 49, Section No. 2.*—The work of placing the column was completed during the year. The subgrade of the footings is above ground water level until a point is just north of Avenue X and Gravesend avenue. From this the end of the contract the subgrade of the column footings ground water level, the subgrade soil being a coarse sand. Erection of steel was begun on April 20, 1916, at the north the section, using a wooden traveler with an 80-ft. steel railway duct line for the elevated structure was begun 22, 1916, at the north end of the section, and continued rd to Kings Highway.

percentages of the principal items of work completed are as

	Per cent
Earth excavation .....	73
Concrete .....	63
Railway ducts .....	42
Steel delivered .....	67
Steel erected .....	39

t 54 per cent of the total estimated value of the work is ed.

following tabulation gives the work done under the prin- ems of construction on Sections Nos. 1 and 2 of Route from the beginning of construction to December 31, 1916, total estimated value of work completed during the same

ITEM	Unit	Section 1	Section 2	Total
<i>Elevated construction</i>				
ation above M. H. W. ....	Cu. yds. ....	23,317	20,170	43,487
ation below M. H. W. ....	Cu. yds. ....			
	Cu. yds. ....	4,974	5,101	10,075
ucts. ....	Duct ft. ....	228,650	131,908	360,558
ed. ....	Tons. ....	4,612	3,991	8,603
l. ....	Tons. ....	5,016	5,671	10,687

total value of work completed, as estimated .....	\$460,024 00
total value of work completed, as estimated .....	468,646 08
	<u>\$928,670 08</u>

**Station Finish:** — *Route No. 49, Sections Nos. 1 and 2.*— In connection with the work of station finish affecting Route No. 49, a contract was awarded on October 23, 1916, to Snare & Triebel Company, which contract provides for the construction of concrete track floors and platforms at the mezzanines of the elevated stations on these two sections. Contract price, \$52,654.

Work on this contract was begun on December 6, 1916, at Avenue N station, and prosecuted in a southerly direction.

**Track Installation:** — *Route No. 49, Sections Nos. 1-A, and 2.*— A contract, dated October 18, 1916, was entered into with Kaufman & Garcey, providing for the installation of track beginning at a point in private property between Eighth and Ninth avenues near 38th street, and extending thence easterly under private property, Ninth avenue, private property and Tenth avenue to a point in private property south of 37th street between Tenth avenue and Fort Hamilton avenue; thence southeasterly through private property on the southerly side of 37th street to West street; thence southeasterly over West street, private property, Cortelyou road and private property to Gravesend avenue and thence southerly over Gravesend avenue to a point at or near Avenue X. Contract price, \$103,680.

Work was commenced on November 1, 1916. It consisted of the assembling of the plant and the preparing of a storage yard at Parkville station of the Long Island Railroad for the receiving of materials being furnished the installation contractor by the City.

Installation was begun on December 5, 1916, at Bay parkway and prosecuted southerly.

The following tabulation gives the work done under the principal items of this contract, from the beginning of construction on December 31, 1916, and the total estimated value of work completed during the same period:

Type III track .....	3,914 lin. ft.
Total value of work completed, as estimated .....	\$2,899.80

#### NASSAU-BROAD STREET LINE

**Plans:** — This is a two-track line which extends southerly from the Chambers Street station of the Centre Street Loop line, and

row, Nassau and Broad streets, and curves easterly at South to a connection with the Whitehall-Montague Street-East crossing.

This is a temporary connection. When traffic warrants its future, it is proposed to extend this line southerly under the Whitehall-Montague Street line, and also the First Subway, to under the East river to a connection with a proposed subway Atlantic avenue in Brooklyn. It is known as Route No. 45, and is divided for construction purposes into two sections, 1 and 2.

Contract for construction has not yet been let.

*Route No. 45, Section No. 1.*— This section extends from the Municipal building under Park row and Nassau street to Maiden

Contract drawings are completed.

*Route No. 45, Section No. 2.*— This section extends under Nassau and Broad streets from Maiden lane to South street. Contract drawings are completed.

#### CANAL STREET CONNECTION

*Route No. 20, Section No. 1.*— This is a two-track line extending from the Broadway 9th Street subway under Canal street to and over the Manhattan bridge to a connection with the Fourth Avenue subway Brooklyn. The turnout from the line on Broadway to Canal street was included with the contract work on Broadway. The portion from Broadway to the Bowery is known as Route No. 20, Section No. 2. The portion east of the Bowery was built by the Department of Bridges.

*Route No. 20, Section No. 2.*— A two-track line under Canal street from Broadway to the Bowery. This section was entirely completed at the beginning of the year as far as design is concerned, but throughout the year additional studies were made and prepared whenever special conditions in the field required. A particularly difficult problem was met at Lafayette street at crossing under the present subway. Plans were made calling for special steel pile construction to carry the heavy subway loads to hard-pan, considerably below the subgrade of the new structure. Contractor, Underpinning & Foundation Company. Date of contract, July 16, 1914. Contract period, 32 months. Amount of contractor's bid, \$1,822,944.25.

**Construction:** — *Route No. 20, Section No. 2.*— Excavation was continued and completed on the portions between Broadway and Centre street, and between Elizabeth street and the Manhattan Bridge approach, practically completing this item of the work over the entire section. Between Broadway and Centre street the excavation, which was coarse to fine sand, clay and occasional gravel deposits, was exceedingly difficult on account of the depth of the cut (about 47 feet below the street surface and 35 feet below mean high water) and because of the drainage of ground water in great volume, which was pumped from drainage sumps and well points sunk below the several excavation lifts in advance of removing the material.

In prosecuting this work, the sides of the excavation and adjacent buildings were secured by continuous concrete walls about 4 feet thick, which were constructed in sections and carried down in close sheeted pits in advance of the excavation. The walls were supported laterally by heavy timber struts and lattice bracing, tightly wedged against the side walls on each side. The successful completion of this most difficult construction without mishap and the skilful manner with which the work was executed and completed in accordance with the Commission's plans are matters worthy of comment and record.

Structural construction was continued, and the structure has been practically completed throughout the section, except the mezzanine station level and stairways for the Canal Street station and the undercrossing of the existing Interborough Rapid Transit Railroad in Lafayette street.

Excellent progress has been made on the erection of the structure beneath the existing Interborough Rapid Transit Railroad in Lafayette street, the excavation for which was started during the latter part of 1915.

The method of prosecuting this work consisted in the completion of the permanent roof structure in order to provide a rigid mattress on which to support the existing structure; following this, tightly-sheeted drifts were driven under the permanent roof, forming working chambers from which temporary piles were jacked down in advance of excavating the underlying material. In sinking the temporary piles, soft ground was encountered



CANAL STREET SUBWAY SPECIAL FOUNDATIONS AND PILING AT UNDERCROSSING OF FIRST SUBWAY



below subgrade, and it was deemed necessary to adopt measures which would obviate the risk of settlements when the loads were released from the temporary piles and transferred upon the subgrade through the floor of the new structure. For this purpose the temporary piles were cut off at subgrade and utilized as a part of the permanent construction, and additional permanent piles were driven on the bent lines directly under the floor girders. Driving the additional piles and erection of the steel structure were completed, and the operation of cutting off and capping the temporary piles and transferring the loads to the permanent piles and of concreting the floor and vertical walls is progressing rapidly and is nearly completed.

Backfilling and restoring subsurface structures over the completed structure, laying a temporary pavement in the roadway and restoring sidewalks were in progress during the year and completed between Centre street and the east end of the section.

Rapid progress was sustained on this section, as indicated by the following percentages of the principal items of work completed to date:

	Per cent
Excavation . . . . .	93.7
Concrete . . . . .	79.3
Steel delivered . . . . .	86.9
Steel erected . . . . .	85.5
Underpinning buildings . . . . .	60.8
Waterproofing . . . . .	73.4

About 82.6 per cent of the total estimated value of the work is completed.

The following tabulation gives the work done under the principal items of construction on the Canal Street connection, Route No. 20, Section No. 2, from the beginning of construction to December 31, 1916, and the total estimated value of work completed during the same period:

#### Subway construction

Earth excavation above M. H. W.	53,670 cu. yds.
Earth excavation below M. H. W.	58,900 cu. yds.
Underpinning buildings less than 7 stories . . . . .	180 lin. frt. ft.

Maintaining, protecting and securing buildings .....	1,055 lin. ft. ft.	
Concrete .....	23,550 cu. yds.	
Rubble stone masonry .....	220 cu. yds.	
Waterproofing .....	21,067 sq. yds.	
Brick in asphalt mastic .....	2,545 cu. yds.	
Steel delivered .....	3,656 tons	
Steel erected .....	3,596 tons	
By-passing pipes upon or below surface (all sides) .....	3,835 lin. ft.	
By-passing pipes on trestles .....	3,528 lin. ft.	
Trestle for by-passing pipe .....	2,261 lin. ft.	
Sewer construction		
Earth excavation .....	900 cu. yds.	
Concrete .....	96 cu. yds.	
Sewer construction, all sizes .....	864 lin. ft.	
	Subway construction	Sewer construction
Total value of work completed, as estimated ..	\$1,506,658 88	\$11,626 50

**Sewer Work:** — *Route No. 20, Section No. 2.*— Sewer construction was continued during the year, and completed between Cortlandt alley and the east end of the section. The construction of the sewer between Broadway and Cortlandt alley was begun the latter part of the year. A total of 864 linear feet of sewers has been constructed, or 72 per cent of the entire sewer work on this section.

**Station Finish:** — *Route No. 20, Section No. 2.*— Contract for the station finish work covering the Broadway station of this route was let, as referred to in that portion of this report treating of the station finish work for Routes Nos. 4 & 36, to the Serber-Stander Company, Inc. Contract price, \$149,324.75, which contract price also covers the 23d Street and 28th Street stations of Routes Nos. 4 & 36.

Work under this contract as affecting the station on Route No. 20 as above has been started, but to date the hollow-tile and brick work only has been completed. The remaining items for the construction of such work on the Broadway station will be

ced as rapidly as possible within the time limit of the act.

**Track Installation:** — *Route No. 20, Section No. 2.*— A contract for the installation of tracks, as has previously been recorded in connection with Route No. 5 and Routes Nos. 4 & 36, let to J. H. Reynolds Contracting Company, Inc., at a price bid \$88,400, also includes the track installation work involved on Route No. 20.

The work under this contract provides that the contractor shall complete the work within thirty days from the date of the delivery of the contract, and shall lay and complete the tracks at a rate which will average 500 feet of single track per day, except that, if the Commission so elects, it may order the rate increased to 1,000 linear feet of single track per day.

Work of track installation on this section has not yet begun. The subway structure is completed in Canal street from Lafayette street to the Manhattan Bridge approach, and it is anticipated that the installation of tracks will be begun on this portion of the line early in the coming year.

#### BRIGHTON BEACH CONNECTION

**Plans:** — This is a two-track connection from the Fourth Avenue subway at Fulton and St. Felix streets to the Brighton Beach line. It extends under St. Felix street, the Long Island Railroad station and Flatbush avenue to Ocean avenue where connection is made to the Brighton Beach line.

An inspection of the map of the New York Municipal lines indicates that this link completes the short line from Manhattan to Rye Island.

Part of this connection is being constructed with Interborough Rapid Transit work on Sections Nos. 1 and 1-A of Route No. 12; Sections Nos. 1-B and 2-A cover the New York Municipal Corporation work only.

**Route No. 12, Section No. 1-B.**— This section extends from the present place under the Long Island Railroad Atlantic Avenue to Flatbush avenue. In the negotiations with The Long Island Railroad Company for the property for this section, the company insisted that the construction of the subway underneath the property must be done by tunneling methods to avoid inter-

ference with its traffic. To facilitate this it was arranged that the company build a slab immediately below its structure which is to be the roof of the subway. This slab, being strong enough to support the Long Island Railroad structure, will simplify the underpinning thereof and thereby the construction of the subway beneath it.

The contract for the subway structure dated October 20, 1916, was let to the Degnon Contracting Company. Contract period, 14 months. Summary of bid, \$810,265.00. About 25 per cent of the working drawings is completed.

*Route No. 12, Section No. 2-A.*—This is a two-track line extending under Flatbush avenue from Prospect Park plaza to about Ocean avenue, where a connection is made with the Brighton Beach line. The structure is quite deep, the depth varying from 25 feet to 85 feet below surface. It is accordingly to be constructed by tunneling methods. The design of the sump and pump chamber at Malbone street has been changed from steel and concrete construction to reinforced concrete work, and the ventilation shaft at Prospect Park plaza has been moved south about 170 feet from the position shown on the contract drawings. Contractor, Degnon Contracting Company. Date of contract, March 31, 1916. Contract period, 20 months. Summary of contractor's bid, \$1,370,098.

All the working drawings for this route, except a few minor details, have been completed, and about 65 per cent of the shop drawings has been filed.

**Construction:**—*Route No. 12, Section No. 1-B.*—Work on this section was commenced on November 1, 1916. The erection and assembling of plant and equipment are progressing. A shaft is being sunk on Atlantic avenue immediately adjacent to the Long Island Railroad station.

The construction of a reinforced concrete slab under the tracks, platform and columns of the Long Island Railroad station, at Flatbush and Atlantic avenues, involved in the work of this section, for the protection of this property during the construction of the subway, was commenced on February 17, 1916, and was prosecuted almost continuously to the completion of the work. On October 31 the temporary organization of The Long Island Railroad Company, formed especially for the execution of this

ct, was dismissed and the final closing up was taken over  
e permanent organization. The plant which was used for  
b construction, purchased under agreement with the Com-  
n, was disposed of before the disbanding of the temporary  
zation. The property is now available for the use of the  
ctor for subway construction.

te No. 12, Section No. 2-A.— This section is of tunnel  
uction with subgrade of structure from about 50 feet to  
et below street surface. The structure is to accommodate  
press tracks under Flatbush avenue from Prospect Park  
to Malbone street. There are three ventilating shafts on  
ction, two of which are fan chambers, and the third is an  
chamber, all of which are being used as construction shafts,  
fourth shaft is in use at the location of the permanent pump  
er. Construction shafts are from about 800 feet to 1,500  
art. Work was commenced on this section on May 29, 1916.  
shafts have been sunk to subgrade, and a fourth is in  
ss. The excavation is in sand, gravel, and boulders well  
mean high water. Ground water has been encountered in  
pockets, but no serious trouble is anticipated on account  
presence of water.

contractor's construction method consists in driving, by  
ry poling board methods, three 8 ft. by 8 ft. drifts from  
haft, one on the center line of structure and one on the line  
h side wall, all at subgrade. As these drifts progress the  
nent concrete footings of side and center walls are placed.  
alance of the cross-section will be excavated with the protec-  
f a steel shield which will run on the footings already con-  
ed in the drifts. Concrete lining will be placed as the shield  
ces.

fts between the southerly two shafts have been connected,  
ncreting of footings is in progress. Drifts from the other  
eted shafts are in progress.

percentages of the principal items of work completed are  
ows:

	Per cent
Excavation . . . . .	14
Concrete . . . . .	2

ut 9 per cent of the total estimated value of the work is  
eted.

## COMPANY CONTRACTS — NEW YORK MUNICIPAL LINES

## THIRD-TRACKING ELEVATED RAILROADS

The third-tracking of the present New York Municipal Railway Corporation Elevated lines includes an additional track on the Fulton Street line from Adams street over Fulton street, Van Sinderen avenue, Pitkin avenue and Liberty avenue to the borough line near Drew avenue; on the Broadway line from Havemeyer street over Broadway, Fulton street and Crescent street to Jamaica avenue, and on the Myrtle Avenue line from Broadway over Myrtle avenue to Wyckoff avenue. The construction of the third track on the Fulton Street line east of Manhattan Junction over Pitkin avenue and Liberty avenue to the borough line near Drew avenue, and on the Broadway line east of Manhattan Junction over Fulton and Crescent streets to Jamaica avenue, has been temporarily suspended.

The third-tracking work involves the widening of the structure to accommodate an additional track and the strengthening of it to allow the operation of the heavier equipment proposed by the New York Municipal Railway Corporation. Plans for this work are being prepared by the company and require the approval of the Commission. Contracts for the work are being let on a unit-price basis after competitive bidding.

**Plans:**—*Fulton Street Line, Section No. 1.*— Extends from Nostrand avenue to Sackman street. Plans for third-tracking this section were approved by the Commission in 1914, and contracts awarded as follows: Steel work, Milliken Brothers, Inc., \$466,800; reconstruction, Terry & Tench, Inc., \$462,871.50; station finish, John Thatcher & Son, \$258,664.

**Construction:**—*Fulton Street Line, Section No. 1.*— On this section the construction involved the strengthening and widening of the existing structure to provide a third track, the removal of the existing columns and cross-girders, the raising of the old longitudinal girders to their new grade, the erection of new structural steel and the installation of three new tracks. This work, which was begun on June 25, 1914, was practically completed at the close of 1915 and is now wholly completed, the third track having been placed in operation on December 27, 1915.

**Station Construction:**— *Fulton Street Line, Section No. 1.*— Consists of the construction of elevated railroad stations on Nostrand avenue, Tompkins avenue, Troy avenue, Reid avenue, Ralph avenue, Saratoga avenue and Rockaway avenue. This work, which was begun on May 17, 1915, is now practically completed.

**Plans:**— *Fulton Street Line, Section No. 2.*— Extends from Adams street to Nostrand avenue. Plans have been submitted to the Commission for approval. Property owners are working to cause the removal of this structure and replace it by a subway. While all are agreed that this is desirable an agreement has not been reached on the definite plan to be followed. No agreement has been reached as to how this is to be paid for.

Plans for the steel work of the portion of this section between Nostrand avenue and Cumberland street, except for a short length at Franklin avenue, have been approved by the Commission and the company authorized to exercise its option with the low bidder, the American Bridge Company (obtained prior to the rise in the price of steel), for supplying the structural steel. Plans and contract for reconstruction including station finish have been prepared by the company and submitted to the Commission for approval. Summary of low bid, for supplying the structural steel, about \$258,000. For the portion of the section between Adams and Cumberland streets the Commission has ordered a latticed girder construction. Plans have been prepared by the company on this basis and submitted to the Commission for approval.

**Plans:**— *Broadway Line, Section No. 1.*— Extends from Havemeyer street to Myrtle avenue. Contracts for furnishing steel for the reconstruction and for station finish have been awarded as follows: Steel, McClintic-Marshall Company, \$193,000; reconstruction, Terry & Tench Company, Inc., \$321,305.70; station finish, John Thatcher & Son, \$320,325 (includes both Sections Nos. 1 and 2).

**Construction:**— *Broadway Line, Section No. 1.*— Work on this section consisted in strengthening and widening the existing elevated railroad structure to provide for an additional track in Broadway, between Havemeyer street and Myrtle avenue. Work was begun on November 10, 1914, and the new third track placed in operation on January 17, 1916.

**Plans:**— *Broadway Line, Section No. 2.*— Extends from Myrtle avenue to Aberdeen street. Contracts for furnishing steel for reconstruction and for station finish for this section have been awarded as follows: Steel, L. F. Shoemaker Company, \$279,000; reconstruction, Jobson-Gifford Company, \$400,441.70; station finish, to John Thatcher & Son with Section No. 1.

**Construction:**— *Broadway Line, Section No. 2.*— The work involved on this section consists of strengthening and widening the existing elevated structure to provide an additional track in Broadway, between Myrtle avenue and Aberdeen street, on which construction was begun by the contractor on September 3, 1915, and the new track was placed in operation on December 21, 1916.

**Station Construction:**— *Broadway Line, Sections Nos. 1 and 2.* Consists of the construction of elevated railroad stations at Hewes street, Lorimer street, Flushing avenue, Myrtle avenue, Kosciusko street, Gates avenue, Halsey street and Chauncey street. Work was begun on September 30, 1915, and is now about 85 per cent completed.

**Plans:**— *East New York Reconstruction.*— This includes the reconstruction of the Broadway and Fulton Street lines at their intersection, and the enlarging of the present East New York storage yard. The contract for furnishing the steel was awarded to the American Bridge Company, the low bidder. Summary of bid, \$888,000. The contract for reconstruction, including station finish, has been awarded to the Crenshaw Engineering & Construction Company. Summary of bid, \$1,237,229.91.

**Construction:**— *East New York Reconstruction.*— The work to be done under this contract includes the strengthening and widening of the existing structures in Fulton street, Broadway and Snediker avenue, and the construction of a new four-track structure on private right of way along Van Sinderen avenue, extended from Fulton street to Pitkin avenue, with a three-track branch into Pitkin avenue and a one-track connection to the existing Canarsie line; the installation of new tracks and special work, the erection complete of new station buildings, the construction of an addition to the inspection shed, and the erection of a new elevated structure to furnish additional storage yard capacity. Work was begun on March 23, 1916. All of the new founda-

tions have been completed, and about 10 per cent of the steel has been erected.

**Plans:—***Myrtle Avenue Line.*— This includes the third-tracking of the line from Broadway to Wyckoff avenue. The contract for furnishing the steel was awarded to the Phoenix Bridge Company, the low bidder. Summary of bid, \$170,000. The contract for reconstruction and station finish was awarded to the low bidder, Bayly Hipkins. Summary of bid, \$358,511.25.

**Construction:—***Myrtle Avenue Line.*— The work involved in this construction consists in strengthening and widening the existing elevated railroad structure to provide for a third track in Myrtle avenue from a point near Willoughby avenue to a point near Wyckoff avenue. This work includes the erection of steel, construction of column foundations, installation of a new third track and the construction of stations complete. Work was begun on March 14, 1916. All of the column foundations have been reconstructed and about 65 per cent of the steel has been erected.

#### RECONSTRUCTION AND EXTENSIONS OF EXISTING LINES

In addition to the third-tracking work, the Dual Subway Contracts provide for extensions of and changes to the rapid transit lines of the New York Municipal Railway Corporation. Such lines, on which work has been accomplished during the year, are enumerated as follows, and the work given in detail:

**Plans:—***Liberty Avenue Line.*— This is a three-track elevated extension of the Fulton Street "L" easterly over Liberty avenue to Lefferts avenue. Plans for this line were approved by the Commission in 1913. The construction contract was awarded to the Phoenix Bridge Company on a bid summary of \$707,661, and the station finish contract to the P. J. Carlin Construction Company on a bid summary of \$232,000. Plans for an additional entrance at the westerly end of the Lefferts Avenue station were prepared by the company and approved by the Commission during the year.

**Plans:—***Jamaica Avenue Line, Sections Nos. 1 and 2.*— This is a three-track elevated extension of the Broadway line beginning at Crescent street and extending over Jamaica avenue to Cliffside avenue (Grand avenue). Two tracks are to be constructed at once

with provision for a future third track. The line is divided into two sections, Nos. 1 and 2.

Section No. 1 extends from Crescent street to Walnut street. The contract for the construction was awarded to Post & McCord, Inc.; summary of bid, \$734,340. Contract for station finish to include Sections Nos. 1 and 2 was awarded to P. J. Carlin Construction Company; summary of bid, \$480,700. Contract for track installation and line equipment, combining Sections Nos. 1 and 2, was awarded to Lewis H. Woods; summary of bid, \$142,584.50.

Section No. 2 extends from Walnut street to Cliffside avenue (Grand avenue). The contract for construction was awarded to Connors Brothers Company, Inc.; summary of bid, \$726,168.40. For station finish, track installation and line equipment, see Section No. 1.

**Construction:**—*Jamaica Avenue Line, Sections Nos. 1 and 2.*—Work on Section No. 1 of this line, begun on May 24, 1915, is now completed. On Section No. 2, work was begun on April 3, 1916; column foundations are now completed, and about 60 per cent of the steel is erected.

**Station Construction:**—*Jamaica Avenue Line, Sections Nos. 1 and 2.*—This contract provides for the construction of stations at Cypress Hills, Elderts lane, Forest parkway, Woodhaven, Freedom and Greenwood avenues, Spruce street, Metropolitan avenue, Queens boulevard, Sutphin road, Newark street and Cliffside avenue. The work includes the erection of station buildings, stairways and approaches, concrete passenger platforms with canopies, etc. Work was begun on August 1, 1916, and the first six stations are now practically completed.

**Track Installation and Line Equipment.**—*Jamaica Avenue Line, Sections Nos. 1 and 2.*—This contract provides for the construction of tracks and the installation of electrical equipment, from a point near Crescent street, in Jamaica avenue, to a point near Cliffside avenue, Jamaica. The work to be done includes the installation of tracks, the construction of the concrete through spans with waterproofing, and the installation of third rail. Track material will be furnished by the New York Municipal Railway Corporation. Work was begun on August 9, 1916, and the sec-

tion between Crescent street and Cypress Hills is now practically completed.

**Plans:—Coney Island Terminal.**—The Coney Island Terminal construction includes a 4, 6 and 8-track elevated structure beginning at a point near Neptune and Stillwell avenues and extending for the most part over private right of way and private property to a connection with the Brighton Beach line near Neptune avenue with stations at Stillwell avenue, West 8th street, Ocean parkway and Coney Island avenue. Connections are made with all New York Municipal Railway Corporation's lines to Coney Island. Plans have been approved by the Commission. The contract for furnishing steel for this line has been awarded to the American Bridge Company. Approximate summary of bid, \$675,000. The construction contract has been awarded to the Lord Construction Company. Contract executed March 14, 1916. Contract period, 2 years. Summary of contractor's bid, \$1,279,274.25.

**Construction:—Coney Island Terminal.**—This work includes concrete pile foundations upon which will be erected an elevated structure, some sections of the latter being of steel and others of concrete reinforced arches; installation of track; special work and electrical line equipment; and four elevated stations, including interlocking tower and trainmen's quarters at Brighton Beach station. Approximate quantities of the principal structural materials to be used on this contract are 145,000 linear feet of concrete piles; 30,000 cubic yards of concrete masonry, and 19,275 tons of structural steel and reinforcement. The New York Municipal Railway Corporation will furnish the track materials. Construction was begun on April 16, 1916, and about 25 per cent of the work is completed.

**Plans:—Reconstruction of Brighton Beach Line, Church Avenue to Malbone Street.**—This includes the changes necessary to make a connection with Route No. 12, Section No. 2-A, at Malbone street, and also provides for the regrading of the existing tracks, the construction of two additional tracks and the reconstruction of the Church Avenue, Parkside Avenue and Prospect Avenue stations. The tracks at stations will be in open cut, and intersecting streets will be carried on bridges. Contractor, Inter-

Continental Construction Corporation. Date of contract, January 13, 1916. Contract period, 24 months. Summary of contractor's bid, \$1,003,529.60.

**Construction:**— *Brighton Beach Line, Church Avenue to Malbone Street.*— The reconstruction work under this contract provides for the widening of the right of way and increasing the number of tracks from two to four, and the construction of retaining walls, bridges, drainage system, new tracks, stations and station buildings. Track material will be furnished by the New York Municipal Railway Corporation. Work was begun on March 13, 1916, and is now about 25 per cent completed.

**Construction:**— *Fresh Pond Road Yard.*— *Installation of Tracks, etc.*— The work in this connection, which included the grading and enlarging of the Fresh Pond Road yard, removing present tracks, laying new tracks and special work, and installing contact rail and other electrical work, began on October 25, 1915, and was completed in March, 1916.

#### RAPID TRANSIT EQUIPMENT

The following is a report of the Electrical Engineer in charge of the Bureau of Equipment Inspection on the work done by that Bureau during 1916, in connection with the equipment of the rapid transit lines being constructed under the supervision of the Chief Engineer:

In addition to examining and passing upon the plans, specifications, contracts, etc., submitted for approval by the Interborough Rapid Transit Company and the New York Municipal Railway Corporation for the supply and installation of equipment, as provided under Contracts Nos. 3 and 4 and the Related Certificates, the Bureau has also during the year tested and inspected a large part of the electrical materials such as power, telephone and signal cables, contact rails, etc., installed on the New York Municipal lines.

In the purchase of equipment material, changes in several of the specifications have been made, resulting in greater certainty in the procuring of satisfactory apparatus, and, in some cases, in obtaining such material at a considerably lower cost.

The total value of equipment contracts examined and approved

the year covering the New York Municipal lines amounted \$200,000; and the total value of such contracts examined and covered covering the Interborough Rapid Transit Company's amounted to \$7,750,000.

#### NEW YORK MUNICIPAL RAILWAY CORPORATION

**Equipment:**— Such equipment as has been approved for installation during the year has included, largely, cars and related apparatus, power-house and substation buildings and equipment; high voltage distributing systems, including third rail, cables and bonding; signal systems, including supervision of the development of an entirely new design of signaling and speed control; heating, heating and ventilation of stations and subways; telephones, emergency alarm systems and other communicating apparatus, and drainage equipment and yard arrangements. While the matter submitted has applied entirely to new work, a considerable part of the work this year has been in the nature of revisions and alterations in matters previously approved, indicating that the installation work is progressing rapidly and that most of the lines are already completed and others nearing completion.

Through the inspection work, the installation of equipment has been supervised, insuring, so far as possible, its future satisfactory operation. Following the completion of the installation of such equipment, these inspections have enabled proper maintenance and attention to be followed up and have eliminated all possibility of delay in the placing of new lines in operation through failure to provide any part of the equipment. By this means the corporation has been notified, sufficiently in advance, of the time that construction work is to be completed, making it possible for it to order and install the requisite equipment within the required time.

During the year a number of general subjects, enumerated as follows, has received special study:

*Replacement of Wooden Cars in Centre Street Loop.*— Extensive consideration has been given to the question of the immediate or ultimate replacement of wooden cars from service through the Centre Street Loop and the substitution therefor of all-steel cars. This has

involved a careful analysis of traffic conditions on the various rapid transit lines converging at the Williamsburg bridge, as well as their inter-relation with other lines. Consideration was given also to the question of structural conditions and probable future developments of traffic. A final decision in the matter is still in abeyance.

*Power Supply for Operation of New Lines.*—Numerous conferences have been held, and much time and study have been given to the question of the source of power supply necessary for the operation of the new lines, the solution of the matter resting on a decision as to whether this power shall be supplied from new power stations belonging to the new lines and eventually to be owned by the City, from power stations of companies affiliated with the New York Municipal Railway Corporation, or from the Interborough Rapid Transit Company or other outside companies. Although the matter is still open, no final decision having been made, it seems probable that the power may be supplied either by the operating company or that it will be purchased from outside companies. In either case, the power will be supplied at a materially lower figure than that first proposed by the New York Municipal Railway Corporation, with a resultant ultimate saving to the City.

*Fourth Avenue Subway, Centre Street Loop and Williamsburg Bridge — Signaling and Speed Control System.*—In accordance with the terms of the contract between the New York Municipal Railway Corporation and the General Railway Signal Company, the manufacturing concern has been developing an entirely new system of cab signaling and speed control. All of the apparatus installed and to be installed is subject to the approval of the Commission. Careful attention has therefore been given to the progress of the development of the system, and the corporation's tests of the apparatus have been followed up by continuous inspections in the field. This system will, if it meets expectations, permit operation of more frequent service through signaled territory than has heretofore been possible, and with a far greater degree of safety, in that absolute regulation of speed is provided. After exhaustive tests a part of this equipment, covering a new type of automatic stop, has been tentatively accepted by the Commission, and has been placed in regular service on the steel cars

operating through the Centre Street loop and on the Fourth Avenue subway and the Sea Beach line. The remainder of the equipment, comprising visual and audible cab signals, taking the place of the usual type of signal located along the right of way, together with the speed governing feature, is under test on several cars which have been equipped experimentally and are now in regular service. The apparatus under test performs its functions in conjunction with the existing system of signals so that none of the safety features already provided is eliminated by the test. Difficulties always incident to the development of new apparatus have been encountered, but at present there seems no reason to suppose that they will not be overcome and that this system will not meet all expectations.

*Station Signs.*— Considerable study has been given to the question of providing adequate station signs of various types. As a result of this, additional signs indicating the names of stations, exits and entrances have been installed or are now in process of installation. The question of making certain changes in illuminated signs at various stations indicating the approach of trains has been taken up with the corporation, these signs to date having given unsatisfactory service. It is the aim to effect improvements which will render these signs serviceable.

*Electrolysis — Bonding Cast-iron Sections of Subway Tunnels.*—An investigation was instituted to take up the question of bonding cast-iron tunnel sections of new subway lines, the aim being to prevent the possibility of electrolysis. After extensive study, designs have been prepared for a special type of electric copper bond for this purpose. These bonds have already been installed by contractors at several points under the direction of engineers of the department.

*New Cars.*— Orders for the purchase of 200 additional steel cars, together with trucks, electrical and air-brake apparatus, and other equipment therefor, largely under options of contracts previously approved, have been given approval. Various changes in the specifications and plans covering new cars, as shown to be advisable from our experience with the first of these cars in operation, have been approved. By request of the Commission, specifications and plans for special cars for the purpose of emergency pumping in flooded subways, for providing adequate wrecking

facilities, and for transporting rubbish collected along the line, were prepared by the corporation, submitted and approved.

*Lighting, Heating and Ventilation of Stations and Tunnels.*— Contracts, specifications and plans for the lighting, heating and ventilation of stations and tunnels have been submitted and given consideration, approval being given or recommended as warranted. It has been necessary to dispose of a number of questions arising in connection with this work by means of informal conferences with engineers of the corporation, the plans, etc., then being approved after appropriate changes were made. In the approval of these plans and contracts close attention was given to insure the provision of proper continuity of service, as well as to see that the design was adequate and proper. During the year contracts covering this class of work have been approved, covering the Broadway (Manhattan) subway from Rector to 28th streets; the East New York station; the New Utrecht Avenue Line stations; the Fulton Street Line stations, between Nostrand avenue and Cumberland street, and the Coney Island terminal. The problem of providing adequate tunnel ventilating apparatus in the Centre Street loop and in the Fourth Avenue subway has been given attention during the year. This matter was for some time held in abeyance pending a report of a special committee appointed to investigate the general question of subway ventilation. Based to some extent on this report, the corporation now has in active preparation plans showing a proposed method of ventilating these subways.

*Drainage.*— At the Commission's request the corporation has agreed to install pumps on the several sections of the subway after construction is complete and prior to the beginning of operation of the lines by the corporation, thus saving to the City the cost of providing new pumps to cover this period or the cost of retaining the contractors' pumps.

Contracts, specifications and plans for the purchase and installation of drainage sump pumps at points in the Centre Street loop and in the Fourth Avenue subway have been submitted by the corporation and approved.

Contracts, specifications and plans for the purchase and installation of sewage ejectors at certain stations in the Broadway (Manhattan) subway have also been approved.

*tions.*— Contracts, specifications and plans covering the and equipment of a new substation in the vicinity of the burg bridge were submitted and approved. The purchase for this building was likewise approved.

*acts, specifications and plans for rotary converters, trans-circuit-breakers, switchboard and other details of substa-aratus were submitted and approved.*

*rs and Cables.*— Contracts and orders for the purchase for various purposes, including power, signal and emer-arm, were submitted for approval, as were also detailed owing the installation of the same at various points on the s. These have been approved. Consideration has been the relocation of existing cables, and designs have been showing the manner in which trolley trough at several ould be installed. In connection with the contract for g the surface tracks on New Utrecht avenue, detailed ere prepared and specifications were drawn up covering ation of the trolley trough and the cables of the Nassau Railroad Company.

*Third-rail Installation.*— Contracts, specifications and plans the procurance and installation of third-rail and for third-rail, track-rail and elevated structures on a number were submitted and approved after appropriate changes a made. These lines include the Broadway (Manhattan) between South and 59th streets, the Jamaica extension; Island terminal; the reconstruction work at East New including yards; the Fulton Street Elevated line between d avenue and Cumberland street, as well as minor work Broadway Elevated and other lines.

al attention has been given to the design of third-rail a view of trouble experienced with a type of bond pre-installed.

*Lines and Manholes.*— A contract, with specifications and s related thereto, for the installation of various duct lines holes was given consideration and was approved. Draw-owing various details of ducts and manholes have been ed and been given attention.

*s for Storage and Equipment Purposes.*— A report was d and submitted dealing with the advisability of securing

an additional yard for storage and equipment purposes on the Canarsie line, in accordance with a definite suggestion of the corporation. The location and design of other yards for similar purposes were given consideration.

*Automatic Signals.*—Various work orders calling for additional work under contracts previously approved and looking toward the safeguarding of signal apparatus already installed were submitted. Experience having indicated that it is necessary to provide such safeguards, the orders were approved. A considerable proportion of the changes in this signaling apparatus was made at the instance of engineers of the Commission. Detailed plans covering the arrangement of the apparatus at various points have been criticised.

**Operation of New Lines, and Progress of Equipment:** — A considerable volume of matter relative to the temporary operation of new lines has been considered. Such work has consisted principally of questions relating to the relocation of existing wires belonging to outside companies and to the relocation of tracks.

During the year operation on the New Utrecht Avenue line as far as 86th street and Twenty-fifth avenue was inaugurated, the third-rail and connections being fully installed as far as this point, but the station lighting and heating being only partially complete, due to the non-completion of the station buildings. This operation has been conducted over two tracks, covering a distance of approximately three and three-fourths miles.

In the Fourth Avenue subway the service has been extended from 59th street to 86th street on the local tracks, and on the express tracks operation between the Manhattan bridge and 59th street has been inaugurated. The work of installing third-rail, cables, lighting, and temporary signals is complete on this line except for the installation of tunnel ventilating fans, which matter has been held in abeyance pending the result of a study by a special committee. The work is now going forward.

On the Sea Beach line service has been inaugurated on the express tracks. All equipment on this line has been completely installed, and is in operation, with the exception of certain toilet facilities which are unavailable for use owing to the lack of sewer connections. The operation on this line, together with the exten-

sion of operation in the Fourth Avenue subway, covers a distance of approximately nine miles.

On the Broadway Elevated line the installation of station lighting is nearing completion. The portion of this line between Havemeyer street and Myrtle avenue, a distance of approximately one and one-half miles, was placed in operation.

On the Fulton Street line between Nostrand avenue and Sackman street the additional track, covering a distance of approximately two and three-fourths miles, was placed in operation.

On the Myrtle Avenue line reconstruction of the tracks and station buildings is under way, but as yet no equipment has been installed. The same conditions exist at East New York and at Coney Island. On the Jamaica Avenue extension the installation of third-rail is partially complete and contracts for station lighting have already been let.

Frequent inspections made on the lines which have already been placed in operation have resulted in the corporation requiring contractors to satisfactorily complete certain details of the work, and in some cases to reconstruct unsatisfactory work, as well as to clear away accumulated rubbish, the general purpose of these inspections being to insure entire completion of contracts and the satisfactory operation of equipment installed under the same.

**Inspection and Accounting:**— To insure full protection of the city's interests in connection with equipment work done during the year on new lines of the New York Municipal Railway Corporation under Contract No. 4 and the Related Certificates, the progress of all such work has, by detailed inspections and investigations, been checked, and every charge made for such equipment work performed definitely accounted for. The manner of inspecting and accounting for this work and the general scope of the same are outlined as follows:

Prior to the beginning of installation by the corporation of any equipment previously approved by the Commission or the Chief Engineer, a conference has been arranged with the proper corporation officials and an authorization has been prepared to cover the work, specific authorizations being prepared by the Department when necessary for the purpose of the proper identification of charges, and for properly classifying such charges in accordance

with the requirements of Contract No. 4. Authorizations submitted by the corporation have been approved when properly covering equipment work, and have been classified according to the Uniform System of Accounts. During the year 181 separate authorizations covering equipment work were approved.

In all cases where new work to be done was of such a nature as to require the replacing of existing facilities, a field inspection was immediately made and an inventory prepared from which the present and scrap values of the existing facilities at the time of removal were determined. During the year such inventories and computations were made of the facilities on the following lines and stations: Brighton Line reconstruction between Church avenue and Malbone street; Brighton Line reconstruction between Neptune avenue and Culver depot; West End Line reconstruction; Culver line; Coney Island terminal; East New York reconstruction, and the replacing of signal towers and interlocking equipment at various locations on the Broadway, Fulton Street and Myrtle Avenue lines.

Daily inspections were maintained of all work under way to see that the provisions of contracts and specifications approved by the Commission were rigidly carried out and to keep in close touch with the progress of all work. Where the work was done by the corporation with its own labor forces and material, a daily check was made in the field of all labor and material used, these field records being later checked against the Daily Force Account Sheets, Storehouse Orders, Direct Charge Reports, etc., submitted by the corporation.

In cases where the work was being done by contractors, inspections and records were made of the quality of material used and the progress of the work; a record was also kept of such extra work as was performed under these contracts. All records were then checked against the Monthly Contract Estimates when submitted to the Commission by the corporation. Copies of all vouchers and journal entries submitted monthly by the corporation were checked against original data, storehouse orders and force accounts, to which these vouchers and journal entries referred in detail, thus maintaining a complete check and record of all work performed.

Monthly statements showing the expenditures made on account of each authorization or job number were submitted by the corporation and were regularly checked against the records on file in this office and obtained as a result of field checks. These statements of expenditures, if found correct, were certified to and recommended for approval to the Chief Engineer. When incorrect, the particular items objected to were referred back for correction and were certified only when they were satisfactory in every detail. During the year statements of expenditures made by the New York Municipal Railway Corporation aggregating approximately \$3,702,000 were checked and certified.

All materials and supplies taken into stock at, and issued from, the various storerooms of the corporation were checked against bills, purchasing agent's orders and vouchers, and accounted for. The aggregate value of materials so checked amounted to approximately \$840,000.

Of equipment work done during the year by the New York Municipal Railway Corporation or its contractors, of which daily inspections have been maintained, and such work done accounted for, the principal items included tunnel and station lighting; signal and interlocking equipment; installation of power, contact rail, and of telephone and other cables; track bonding; emergency alarm equipment; signal towers, and heating of same; station furniture; off-line conduits; cars and car equipment, and equipment of substations.

**Electrical Tests on Materials:** — During the year tests were made of all equipment materials for installation on the New York Municipal lines, where the specifications for such materials called for certain electrical properties, the Bureau of Equipment Inspection co-operating in this matter with the Division of Materials, which conducted the physical tests. In this line of work the tests made included telephone, emergency alarm, signal and high tension cables, contact rail, third-rail insulators and third-rail bonds, and sump pumps, electrically driven.

As a result of the testing work which has been done, the quality of the material delivered to the corporation has been maintained at a high standard, and all electrically defective material has been prevented from being shipped by the contractors.

## INTERBOROUGH RAPID TRANSIT COMPANY

**Equipment:** — Equipment approved for installation during the year has largely included the following: Cars and related apparatus comprising air brakes, motors and control, etc.; power-house and substation buildings and equipment; high and low-tension distributing systems, including third-rail cables and track bonding; signal systems and interlocking; lighting, heating and ventilation of stations and subway tunnels; telephone systems and other communicating devices; drainage equipment, yard arrangements and bonding of elevated structures. Practically all of the matters submitted by this company applied entirely to new work, very few changes being presented for consideration. This, in contrast to work of a similar nature done by the New York Municipal Railway Corporation, indicates that the work of installation of equipment on the Interborough lines is not in general so far advanced as on the New York Municipal Railway Corporation's lines.

The scope of the work, in connection with the equipment of this company's lines, has been practically the same as that done in connection with the equipment of the New York Municipal Railway Corporation's lines. The same system of inspecting and supervising the installation of equipment has been carried out, and the progress of construction and equipment work has been closely watched in order that there might be no delay in the placing of new lines in operation through failure to obtain any part of the equipment. Inspections have been made of equipment on those lines which have been placed in operation to insure this equipment standing up and being properly maintained under operating conditions.

General subjects which have received special study during the year are summarized as follows:

*Cars.*— Contracts, specifications and plans covering the purchase and equipment of 311 new steel cars, including bodies, trucks, electrical and air brake apparatus, have been submitted by the company and approved. In addition to these, contracts, specifications and plans covering the trucks and apparatus to be installed on 478 composite car bodies which were removed from the subway, in compliance with an order of the Commission and

rebuilt for use on new elevated lines, have been given consideration and approved. The work of equipping these car bodies is progressing.

*Substations, Sites and Equipment.*—Consideration and approval have been given during the year to the purchase of sites for three substation buildings. Contracts, specifications and plans have been approved for the erection of five new substations, and purchasing agent's orders for the steel framing for the substations were likewise approved. The plans, contracts and specifications covering the procuring and installation of substation equipment, including rotary converters, transformers, switchboard apparatus, blowers, etc., were given approval.

*Power-houses and Equipment.*—Several contracts for generating apparatus to be installed in power stations, particularly in the power station at 59th street, in which equipment is to be utilized for furnishing power for the operation of new lines, were submitted and given approval. Included among these contracts was the purchase of three 30,000 kw. turbine generators. The contracts covered auxiliary apparatus, such as condensers, pumps, valves, etc., together with contracts for automatic stokers installed to increase the existing boiler capacity. In connection with this work the question of the possible furnishing of power for the operation of the New York Municipal Railway Corporation's lines has been continually kept in mind, in order that ample power may be on hand if such contracts are made.

*Signals and Interlocking on Various Lines.*—The attention of the company has been called to the necessity of submitting plans for signals on various lines on which operation is imminent. Plans for the Queens lines, the White Plains Road line, the Third Avenue and Lexington Avenue lines have already been submitted and given consideration, as well as have numerous plans for detail layouts of interlockings on these and other lines. Plans for the interlocking at 179th street, at the junction of the White Plains Road line with the existing subway, have been submitted, and arrangements have been made covering the method of doing the work. Signals in the vicinity of the Harlem River bridge on the Third Avenue Elevated line have been carefully inspected to insure proper protection being provided. A

large number of drawings covering miscellaneous details of interlocking and signaling work have been examined and approved, and purchasing agent's orders and contracts for the supply of a large amount of signal material have also been checked and approved.

*Power Transmission and Distribution Systems.*— Plans showing proposed general arrangements of power distributing systems have been submitted for consideration during the year, as well as plans showing detailed distribution layouts at certain points. Such suggestions as have been necessary have been made in regard to these.

Attention has been given to the routing of high-tension feeders from the 74th Street power station to Substation No. 26 in Long Island City. Owing to the non-completion of the Lexington Avenue subway it appeared necessary to install these cables in temporary locations along a considerable portion of the route. After a thorough consideration, arrangements were made by means of which this additional expense has been almost entirely eliminated. The method of installing the cables in the unfinished Shaft No. 2 of the Steinway tunnel, as has been suggested, has been accepted by the company.

Standard specifications covering various types of cable were criticised and approved after corrections were made. Contracts for the purchase under these specifications of approximately 1,223,000 feet of cable were approved.

*Duct Lines and Manholes.*— Approval has been given of plans showing the routes and details of construction of duct lines and manholes on 99th street and on Southern boulevard, and also showing the connecting duct lines on Jerome avenue and those for Substation No. 47. The company has been authorized to construct with its own forces a connecting duct line to Substation No. 26 with a view to expediting the work.

*Third-rail, Bonds and Cables.*— Plans showing the location and arrangement of third-rail and cables on the Queens lines, White Plains Road line, Jerome Avenue line and Lexington Avenue subway have been approved, involving the detail of the construction of the third-rail, cables and related apparatus.

A special study was made of conditions in the Harlem River

tunnels where interference existed between the duct-bank and third-rail construction, and suggestions were made with a view to disposing of the difficulty.

Specifications covering third-rail have been approved, and under these specifications contracts for the purchase of 8,800 tons of third-rail have likewise been approved. Drawings and purchasing agent's orders for the supply of bonds and other auxiliaries have been given approval, as well as contracts for the installation of third-rail on the Queens lines and the Lexington Avenue and Jerome Avenue lines. Attention has been given in connection with the third-rail installation and location to the proposed joint operation of cars of both the Interborough Rapid Transit Company and the New York Municipal Railway Corporation over the Queens lines.

*Station Lighting.*—Plans covering station lighting on the Queens lines, White Plains Road line, Second Avenue line and in the tunnels and stations of the Lexington Avenue subway have been given approval. Plans for the lighting of certain reconstructed elevated stations have also been given approval, and tests have been made of the amount of lighting at present at several elevated stations. Purchasing agent's orders for lighting fixtures have been approved. Contracts and specifications for the installation of station lighting on the Queens lines, White Plains Road line, Jerome Avenue line and on the Nostrand Avenue branch have been approved.

*Drainage Equipment.*—Drawings showing the general arrangement and location of drainage equipment, as well as the detailed schedule of the size and type of apparatus to be installed for drainage purposes, have been approved. This equipment covers principally sump pumps and sewage ejectors.

Contract and specifications covering the purchase of six air compressors to operate the drainage equipment have been given consideration and approval, and plans covering the location of air line in the Lexington Avenue and Seventh Avenue subway have been approved, as have also the purchasing agent's orders for the purchase of this pipe.

Arrangements have been made whereby the company is to install pumping equipment as soon as possible after construction work

is sufficiently completed, thus providing pumping facilities during the interim from the completion of the construction to the beginning of operation, without requiring the city to supply or rent additional pumps.

*Additional Yards for Storage and Equipment Purposes.*—Owing to the necessity of procuring additional yard space for the purpose of equipping new cars, this being due to the non-accessibility of center tracks on new lines which it had been contemplated would be available for storage purposes, leases covering several parcels of yard space have been submitted and approved. Plans showing various buildings to be used in connection with equipping of new cars have also been approved. The general question of the size and location of yards for storage and equipment purposes has been given extensive study.

*Station Heating.*—Contracts, specifications and plans covering installation of steam heating plants in certain of the larger stations on the Queens lines were submitted and approved.

*Elevators at the Grand Central Station.*—Elevators being necessary at the Grand Central station for the purpose of communicating with the Steinway tunnel, contracts, specifications and plans covering three of these were submitted and approved.

*Power Supply.*—In connection with the proposed supply of power by the Interborough Rapid Transit Company for the operation of the New York Municipal Railway Corporation lines, conferences have been held to consummate an agreement between the two companies whereby the Interborough Rapid Transit Company would supply power to the New York Municipal Railway Corporation at an acceptable price. The possible utilization of the substations of the Interborough Rapid Transit Company in connection with this power supply has been kept in mind in the consideration of all new substations, and the procuring of new power equipment.

A contract between the Interborough Rapid Transit Company and The Long Island Railroad Company for the temporary supply of power to permit immediate operation of parts of the Queens lines was given consideration and approval.

**Operation of New Lines, and Progress of Equipment:**—During the year the Queensboro subway service was extended westward to the Grand Central station, and elevators connecting the

Central station of the Queensboro subway with the Grand Central station in the present subway were placed in operation. The line was also extended eastward to the Hunters Point Avenue station and later to the Queens Plaza station, considerable work was necessary to accomplish this last extension of service at the desired rate. The question of installing additional crossovers in the Queensboro subway in the vicinity of the Grand Central station, to provide for increased service, is receiving considerable attention at present.

During the year the additional tracks on the Second, Third and Avenue lines were placed in operation.

On the Astoria and Queens lines, the installation of third-rail, station lighting, heating, etc., is progressing, and it is expected that it will be possible to put these lines in operation in the near future.

On the White Plains Road line the third-rail and cables, as well as signals, are partially installed, and the contract for the installation of station lighting and heating has been let. The same contract exists on the Jerome Avenue line.

On the Lexington Avenue subway, the contract for the installation of third-rail has been let and plans covering installation of lighting and ventilation have been approved.

**Inspection and Accounting:** — Along the same lines as in the case of inspection and accounting for equipment work performed by the New York Municipal Railway Corporation, the progress of equipment work done by the Interborough Rapid Transit Company has been checked, and every charge made on account of equipment work definitely accounted for. The manner in which inspection and accounting are carried on and the general scope of the work are as previously described in connection with the New York Municipal lines.

The contracts were approved, on account of equipment work during the year, 1,100 separate authorizations, covering an aggregate value of approximately \$1,730,000.

On equipment work done during the year by the Interborough Rapid Transit Company or its contractors, the principal items included tunnel and station lighting; signal and interlocking equipment; installation of power plant, contact rail, and of power,

telephone and other cables; track bonding emergency alarm equipment; signal towers and heating of same; station furniture; off-line conduits; cars and car equipment; equipment of substations; sump pumps and circuit breaker houses; equipment for reconstruction of 74th Street power house and additional equipment at 59th Street power house.

#### MAINTENANCE OF SUBWAY PUMP EQUIPMENT

In all cases where sections of the subway have been completed by contractors, the maintenance of sump pumps has been taken over and carried on by the Commission until such time as the section in question is turned over to the operating company. The pumps maintained during the year are as follows:

New York Municipal Railway Corporation:

Broadway subway at Chambers street.

Interborough Rapid Transit Company:

Lexington avenue and 74th street.

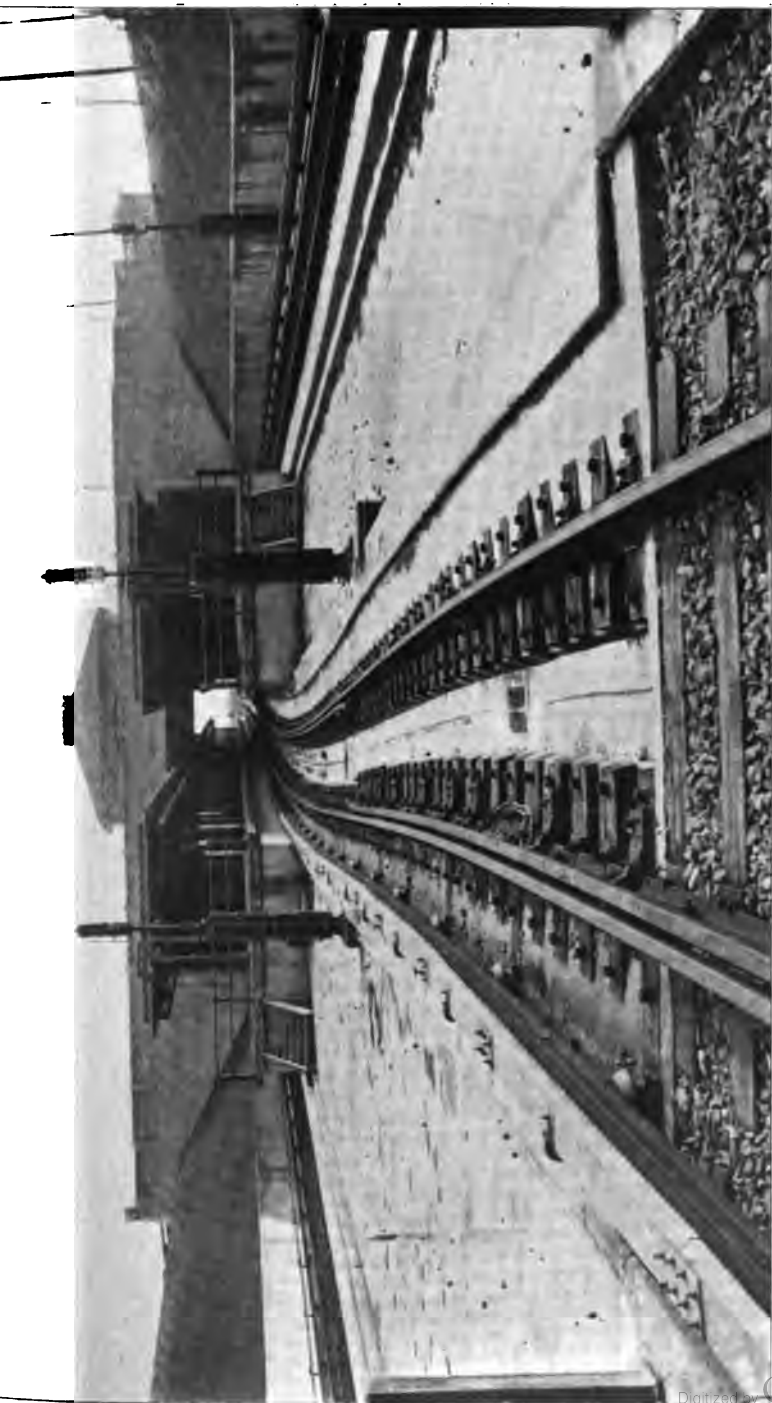
Lexington avenue and 108th street.

#### ELECTRICAL INSPECTION OF RAPID TRANSIT LINES UNDER CONSTRUCTION

Throughout the year continual inspection has been maintained on the lines for operation by the New York Municipal and Interborough Rapid Transit Companies in course of construction, to determine the manner of protecting all lead-covered electric cables, and to make such suggestions for providing additional and proper protection of same as were considered necessary. The entire system has been inspected on an average of once a week, and where particularly dangerous conditions existed more frequent inspections were made. The items which appeared to have an element of danger or which required attention were immediately taken up with the division engineer in charge of the work, who arranged for such repairs as were necessary. Through this inspection many dangerous conditions were eliminated.

#### TRACK CONSTRUCTION

During 1916 the Commission has continued the policy of purchasing track materials of various kinds direct from the manufacturers, and, by placing large orders well in advance of the



NEW U'TRECHT AVENUE LINE. TYPE OF TRACKS AT WEST END OF NINTH AVENUE STATION





NEW UTRECHT AVENUE LINE. SPECIAL WORK IN 38TH STREET CUT



actual need of the various items, has effected great economy and benefited to even a greater extent than in 1915, when a similar policy prevailed. It has been possible for the Commission to loan track material temporarily to the operating companies when they have been unable to secure it from other sources, due to the greatly disturbed condition of the steel market. By being able to make these loans in this way the completion of the Dual System has been advanced, and the City has been the gainer by the arrangement.

The track materials used during the year were furnished to the installation contractors upon their requisitions as endorsed by the Division offices. A great amount of detail work was required to provide the proper classes and quantities of material at the designated points. The difficulties of getting this material to the installation contractors were increased on account of the great congestion of freight in and around New York City. It was only by constant vigilance with respect to various shipments and by urging upon all concerned the great necessity of early deliveries of track materials that progress was made in the track installation work.

The policy of the Commission in furnishing the material to the track installation contractors, instead of allowing each one to purchase that requisite for his own work, has proved to be a well chosen one. In working out this method, the Track Division has received from the various field offices the requisitions for the material needed for each job, and has given manufacturing orders to each material contractor in the method provided in the material contracts.

The more recent installation contracts have been so drawn that it is made incumbent upon the track installation contractor to requisition the total amount of material needed before the expiration of the dates for final delivery set in the material contracts, beyond which time the very reasonable prices had by the contracts would not be in force. It is provided that if the track installation contractor does not take the material within the proper time limit, the Commission retains the right to establish a storeyard and place the material therein at the expense of the contractor.

Agreements modifying the material contracts, under which it

will be possible to extend into 1918 some of the very advantageous arrangements which have been in force this year, are in preparation.

Supervision of the work of providing the necessary material for so great an extent of trackage has made it necessary to set up an accurate system of accounting, in order to maintain record of the immense amounts of various items of material needed, and each month to prepare estimates for payments to contractors for these materials. Such payments monthly have averaged \$125,000.

Five special work contracts (frogs and switches) have been made to the value of \$238,686. Inasmuch as the manufacturers of this class of material were unable to secure the manganese rail from any other source, it was decided to furnish from the Commission's manganese rail contract a sufficient amount from which to fabricate the special work. In this way only has it been possible to secure the necessary high-grade frogs and switches desired for the work. The fabrication of open-hearth rail material, which in no wise possesses the wearing qualities of manganese steel, was thus made unnecessary.

The placing of the above-mentioned contracts for special track work has required much checking of the numerous shop drawings submitted by the manufacturers. Consistent checking and insistence upon specifications being followed have resulted in securing a uniform and standardized product, the advantages of which are very numerous.

During the year several lines were placed in operation and experience has indicated that the design of the track was along sound lines. These new lines included a portion of Fourth Avenue subway in Brooklyn, the New Utrecht Avenue Elevated line in Brooklyn, and the Queensboro Tunnel extension as far as the Queensboro bridge plaza in Queens. The accompanying photographs show typical instances of the type of construction.

Contracts have been prepared and let for 107 miles of track at an aggregate cost of about \$1,017,615.

Plans have been completed for 61 miles more of track. It is contemplated that several large installation contracts will be let early in 1917. The question of car storage yards for the various



NEW UTRICHT AVENUE LINE. COMPLETED APPROACHES TO NINTH AVENUE STATION IN CULVER CUT



has been constantly before the Commission, but due to the complicated nature of the layouts and the necessity of providing adequate facilities it has been impossible as yet to prepare final plans. Numerous studies have been made, however, and it is estimated that the yard question will be determined during the coming year.

Attention has been given during the year to lessening the noise vibration on elevated structures. There is in course of installation on the Jerome Avenue line a stretch of track under which roads have been inserted, and on the rails of which a noise reducing device designed by the Commission will be attached. Of importance to passengers and adjacent residents, this experimental installation is looked upon with interest.

#### INSPECTION OF MATERIALS

While the total amount of material inspected for the year 1916 was not equal in volume to that of the previous year, the variety of materials inspected increased largely, due to the station finish work and special track work. In the year 1915 materials of the approximate value of \$16,800,000 were inspected; this year the total is estimated at \$14,500,000.

In addition to the regular routine work of inspection and testing of standard materials, numerous tests, experiments and investigations were made on special materials in connection with the use of these materials in the work. Certain problems developing in subway construction, such as ventilation, waterproofing, concreting, grading, soils, etc., were also investigated and reported upon. In connection with the ventilation of the present subway, an extended investigation was made to determine the quality of the air with particular reference to the count of bacteria and the carbon dioxide content, as compared with normal atmospheric conditions on the street surface. Samples of air were taken in subways, in cars, on street surface and in certain buildings for the purpose of comparison, with surprising results. The tests showed fewer bacteria in the subway air than in the atmospheric air in certain parts of the city, and less than in certain buildings. These results bore out the Commission's contention that the ventilation system in use was substantially sufficient and needed no change.

except in some minor details. Had it been found that important structural changes were necessary a large outlay would have been required.

An investigation of explosions in air compressor plants on the work resulted in finding that the lubricating oils were the primary cause, and instructions were issued to contractors using air compressor plants, regulating their operation and the class of oil to be used for lubrication.

A quick-setting, low-strength cement, now used extensively in shield driven tunnels, was developed by experimentation. This cement was one for use where not only hydraulic but, at the same time, quick-setting qualities were required.

Autoclave cement for viaduct building on the New York Municipal lines was also introduced for the first time.

The examination and testing of local sands excavated along the line of the work, with a view to their use, if practical, continued as usual, with the result that most of the material offered was found unsuitable and was rejected.

Ready-mixed aggregates were used in increasing quantities during the year, largely displacing the aggregates shipped separately. Better facilities for handling this class of material and its more accurate grading have resulted in denser and otherwise improved concrete.

In order to complete the control of paints and to detect improper handling or adulteration after delivery, samples from paint used have been taken from all parts of the work, regularly and systematically. These were quickly analyzed by the Chemical Laboratory with the result that any abuses of this material were immediately checked.

Several investigations and tests were made on fireproofing compounds for woodwork in subway and elevated structures; on various types of floor hardeners and concrete floors, and on special waterproofing compounds, elastic joint fillers, gravel, concrete, etc. Special tests and inspection were also made on hard woods and special woods, in large quantity, for interior finish on station work, and on a large amount of ornamental iron work, etc.

On elevated structures new problems in waterproofing developed requiring an entirely different type of waterproofing from that

in the subways, particularly as to expansion joints, joints between concrete and steel, waterproofing of steel connections, etc. During the year, especially in the first six months, the great congestion throughout the country hindered seriously the delivery of materials, and for some time the delay occasioned on work was serious. The deliveries most affected were those of Western and Southern lumber. The lumber situation was particularly critical, but was relieved about September 1, although coal and car shortages still existed at that time. The great congestion and scarcity of carriers extended even to the tugboats and lighters in the harbor and rivers, which delayed the delivery of all materials.

Materials entering into the construction and equipment provided in the Dual System were delivered on 108 general contracts and 47 material contracts.

The territory covered in the work of inspection for the year on contracts and orders for materials was extended from 236 manufacturing plants in 1915 to 329 manufacturing plants in 1916 and 194 cities and towns in 1916, as shown in Table No. 1 added. Tables Nos. 2, 3, 4 and 5, also appended, show, respectively, the quantities of materials inspected and accepted during the year; the number of analyses made by the Chemical Laboratory of iron and steel, paints, asphalts and other materials; the work made by the Cement Testing Laboratory; and the work of the Concrete Laboratory, on the inspection of concrete aggregates.

1.—NAME AND LOCATION OF PLANTS AT WHICH INSPECTIONS WERE MADE DURING THE YEAR 1916

STEEL AND METAL INSPECTION

State	City or Town	Plant
Connecticut.....	Bridgeport.....	Columbia Bolt and Nut Co.
	Bridgeport.....	Eastern Malleable Iron Co.
Massachusetts.....	Edge Moor.....	American Bridge Co.
	New Castle.....	American Manganese Steel Co.
	New Castle.....	Brylgon Steel Casting Co.
	Chicago.....	American Steel Foundries
	Chicago.....	Edgar-Allen-American Manganese Steel Co.
	Chicago.....	Illinois Steel Co.
	Chicago.....	National Malleable Casting Co.
Michigan.....	Detroit.....	Monarch Steel Casting Co.
Mississippi.....	Bayonne.....	Bayonne Bolt and Nut Co.
	Camden.....	Concrete Steel Co.
	Dunellen.....	Levgar Structural Steel Co.
	Flemington.....	Foran Foundry and Mfg. Co.
	Highbridge.....	Taylor-Wharton Iron and Steel Co.
	Hoboken.....	Elevator Supply Co.
	Hoboken.....	Fagan Iron Works
	Jersey City.....	Brady Brass Co.
	Jersey City.....	Communipaw Steel Co.
	Mahwah.....	American Brake Shoe and Foundry Co.
	Millington.....	Millington Mfg. Co.

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TABLE 1.—NAME AND LOCATION OF PLANTS AT WHICH INSPECTIONS WERE MADE DURING YEAR 1916 — (Continued)

STEEL AND METAL INSPECTION — (Continued)		
State	City or Town	Plant
New Jersey.....	Newark.....	American Bridge Co.
	Newark.....	Central Foundry Co.
	Newark.....	Hay Foundry and Iron Works
	Newark.....	Igoe Bros.
	Newark.....	Maier & Flockhart
	Oxford.....	Oxford Foundry and Machine Co.
	Trenton.....	American Bridge Co.
	Trenton.....	J. L. Mott Iron Works
	Waverly.....	Carnegie Steel Co.
	Newark.....	National Lock Washer Co.
New York.....	Albany.....	Geo. H. Thatcher Iron Works
	Buffalo.....	Crespecheck Co.
	Buffalo.....	Jewell Steel and Malleable Co.
	Buffalo.....	Lackawanna Steel Co.
	Buffalo.....	New York Car Wheel Co.
	Buffalo.....	Pratt & Letchworth Co.
	Buffalo.....	American Bridge Co.
	Elmira.....	A. P. Dienst Co.
	Greater New York.....	Columbia Machine and Malleables Co.
	Greater New York.....	Equity Iron Works
	Greater New York.....	Greenlie-Halliday Co.
	Greater New York.....	Harris H. Uris Iron Works
	Greater New York.....	Hecla Iron Works
	Greater New York.....	High Ground Iron Works
	Greater New York.....	Hopkins & Co.
	Greater New York.....	Irving Iron Works
	Greater New York.....	Isaac G. Johnson & Co.
	Greater New York.....	John Thatcher Iron Works
	Greater New York.....	Lieberman & Sanford
	Greater New York.....	McDougall & Potter
	Greater New York.....	Milliken Bros.
	Greater New York.....	National Bridge Co.
	Greater New York.....	Pearless Iron Works
	Greater New York.....	Penn Brass and Bronze Co.
	Greater New York.....	Thos. W. Kiley & Co.
	Greater New York.....	U. S. Galvanizing Works
	Greater New York.....	Vulcan Rail and Const. Co.
	Greater New York.....	Whale Creek Iron Works
	Hillburn.....	Ramapo Iron Works
	Jamestown.....	Dahlstrom Metallic Door Co.
	Jamestown.....	Interior Metal Mfg. Co.
	Lancaster.....	American Malleables Co.
	Mt. Vernon.....	Henry-Bonnard Bronze Co.
	Syracuse.....	Fraser & Jones
	Troy.....	Eastern Malleable Iron Co.
	Troy.....	Rail Joint Co.
North Carolina.....	Wilmington.....	Wilmington Iron Works
Ohio.....	Elyria.....	Elyria Iron and Steel Co.
	Middletown.....	American Rolling Mills Co.
	New Philadelphia.....	American Sheet and Tin Plate Co.
	Staubenville.....	La Belle Iron Works
	Warren.....	General Malleables Co.
Pennsylvania.....	Youngstown.....	Carnegie Steel Co. (3 mills)
	Youngstown.....	Republic Iron and Steel Co.
	Ambridge.....	American Bridge Co.
	Bessemer.....	Carnegie Steel Co.
	Bethlehem.....	Guerber Engineering Co.
	Braddock.....	Carnegie Steel Co.
	Canonsburg.....	Fort Pitt Bridge Works
	Carnegie.....	McClintic-Marshall Const. Co.
	Catasauqua.....	Davies & Thomas Co.
	Chester.....	Atlantic Steel Casting Co.
	Clairton.....	Carnegie Steel Co.
	Coatesville.....	Lukens Iron and Steel Co.
	Coatesville.....	Worth Bros. Co.
	Conshohocken.....	Alan Wood Iron and Steel Co.
	Coraopolis.....	Duquesne Steel Foundry
	Corry.....	U. S. Brake Shoe and Foundry Co.
	Donora.....	American Steel Wire Co.
	Duquesne.....	Carnegie Steel Co.
	Easton.....	Kuebler Foundry
	Easton.....	Wm. Wharton Jr. & Co.
	Eddystone.....	Belmont Iron Works
	Erie.....	National Foundry Co.
	Glassport.....	American Sheet and Tin Plate Co.
	Harrisburg.....	Central Iron and Steel Co.
	Homestead.....	Carnegie Steel Co.

— NAME AND LOCATION OF PLANTS AT WHICH INSPECTIONS WERE MADE DURING THE YEAR 1916 — (Continued)

## STEEL AND METAL INSPECTION — (Continued)

State	City or Town	Plant
Ohio	Homestead	Howard Axle Works
	Ivy Rocks	Alan Wood Iron and Steel Co.
	Johnstown	Cambria Steel Co.
	Lansdale	Central Radiator Co.
	Lebanon	American Iron and Steel Mfg. Co.
	McKees Rocks	Schoen Steel Wheel Co.
	Munhall	Carnegie Steel Co.
	New Kensington	Union Spring and Mfg. Co.
	Pencoyd	American Bridge Co.
	Phoenixville	Phoenix Bridge Co.
	Phoenixville	Phoenix Iron Works
	Pine Forge	American Pressed Steel Co.
	Pittsburg	A. Stucki Co.
	Pittsburg	Carnegie Steel Co. (3 mills)
	Pittsburg	Crucible Steel Co.
	Pittsburg	Dilworth Porter & Co.
	Pittsburg	Duer Spring and Mfg. Co.
	Pittsburg	Jones & Laughlin Steel Co.
	Pittsburg	McConway & Torley Co.
	Pittsburg	Oliver Iron and Steel Co.
	Pittsburg	Pittsburg Bolt and Nut Co.
	Pittsburg	Pittsburg Foundry and Machine Co.
	Pittsburg	Pittsburg Screw and Bolt Co.
	Pittsburg	Verona Tool Works
	Pottstown	Glasgow Iron Works
	Pottstown	Keystone Foundry Co.
	Pottstown	L. F. Shoemaker & Co.
	Pottstown	McClintic-Marshall Const. Co.
	Pottsville	Eastern Steel Co.
	Rankin	McClintic-Marshall Const. Co.
	Reading	American Iron and Steel Mfg. Co.
	Scranton	Scranton Bolt and Nut Co.
	Sharon	Carnegie Steel Co. (2 mills)
	Steelton	Cambria Steel Co.
	Steelton	Bethlehem Steel Co.
	South Bethlehem	Bethlehem Steel Co.
	Verona	Valley Forging Co.
	Verona	Verona Tool Works
Virginia	Point Pleasant	West Virginia Malleable Co.
	Wheeling	Wheeling Mold and Foundry Co.
	Wheeling	Wheeling Steel and Iron Co.

## LUMBER INSPECTION

	Brewton	T. R. Miller Lumber Co.
	Mobile	Creighton Lumber Co.
	Mobile	Hempstead Lumber Co.
	Vinegar Bend	Vinegar Bend Lumber Co.
	Caryville	Henderson Waits Lumber Co.
	Eastport	Carpenter & O'Brien (13 mills)
	Jacksonville	G. W. Shank Lumber Co.
	Live Oak	Standard Lumber Co.
	Malone	A. L. Marbury Lumber Co.
	Millville	German American Lumber Co.
	Port St. Joe	P. N. Coleman Lumber Co.
	Savannah	Producers Lumber Co.
	Algiers	D. K. Jeffries Lumber Co.
	Bogalusa	Great Southern Lumber Co.
	Bon Ami	King-Ryder Lumber Co.
	Bon Ami	Long Bell Lumber Co.
	Carson	Central Coal and Coke Co.
	Carson	Delta Land and Timber Co.
	Carson	Gulf Lumber Co.
	Clarks	Louisiana Central Lumber Co.
	Colfax	Big Pine Lumber Co.
	Cravens	Pickering Land and Lumber Co.
	De Ridder	Hudson River Lumber Co.
	De Ridder	Long Bell Lumber Co.
	Edna	Powell Lumber Co.
	Emad	Peavey-Byrnes Lumber Co.
	Fullerton	Gulf Lumber Co.
	Glenmora	Louisiana Saw Mill Co.
	Grabow	Anacoco Lumber Co.
	Hammond	Hammond Lumber Co.
	Kinder	Peavey-Byrnes Lumber Co.
	Lake Charles	Calsesia Lumber Co.
	Lake Charles	Lock-Moore Lumber Co.
	Lake Charles	Powell Lumber Co.

## 306 PUBLIC SERVICE COMMISSION — FIRST DISTRICT

TABLE 1.— NAME AND LOCATION OF PLANTS AT WHICH INSPECTIONS WERE MADE DURING YEAR 1916 — (Continued)

LUMBER INSPECTION — (Continued)		
State	City or Town	Plant
Louisiana.....	Leesville.....	Nona Mills Co.
	Longville.....	Long Bell Lumber Co.
	Longville.....	Longville Lumber Co.
	Ludington.....	Long Bell Lumber Co.
	Ludington.....	Ludington Lumber Co.
	McNary.....	W. M. Cady Lumber Co.
	Meridian.....	Meridian Lumber Co.
	Monroe.....	Hawes Lumber Co.
	Neame.....	Central Coal and Coke Co.
	Neame.....	Delta Land and Timber Co.
	Norfield.....	Natalbany Lumber Co.
	Oakdale.....	Bowman-Hicks Lumber Co.
	Oakdale.....	Forest Lumber Co.
	Oakdale.....	Industrial Lumber Co.
	Pawnee.....	Pawnee Land and Lumber Co.
	Pickering.....	Pickering Land and Lumber Co.
	Pineville.....	Alexandria Lumber Co.
	Ragley.....	W. G. Ragley Lumber Co.
	Ramsey.....	St. Tammany Lumber Co.
	Talisheek.....	Ozone Lumber Co.
	Westlake.....	Krause-Mannigan Lumber Co.
	Woodworth.....	Rapides Lumber Co.
	Zona.....	Sanford Lumber Co.
Mississippi.....	Benmore.....	Moore-Hagerty Lumber Co.
	Blodgett.....	J. M. Griffin Lumber Co.
	Brookhaven.....	Brookhaven Lumber Co.
	Columbia.....	J. J. White Lumber Co.
	Cybur.....	Cybur Lumber Co.
	Hattiesburg.....	James Hand Lumber Co.
	Handsford.....	James Hand Lumber Co.
	Laurel.....	Marathon Lumber Co.
	Lumberton.....	Hinto Brothers Lumber Co.
	Picayune.....	Rosa Lumber Co.
	Purvis.....	James Hand Lumber Co.
	Richton.....	Richton Lumber Co.
	Wiggins.....	Finkbine Lumber Co.
New York.....	Chichester.....	Wm. Scharswaelder & Co.
	Kingston.....	H. W. Palen & Sons
	New York.....	Church E. Gates Lumber Co.
	New York.....	Cross-Austin and Ireland Lumber Co.
	New York.....	E. E. Dey & Sons
	New York.....	Eppinger & Russell Creosoting Co.
	New York.....	Grace Lumber Co.
	New York.....	Irving Iron Works
	New York.....	John C. Orr Lumber Co.
	New York.....	Leary Lumber Co.
	New York.....	Louis Bossert & Sons
	New York.....	Moore Brothers
	New York.....	Mortenson Wood Working Co.
	New York.....	Storey Lumber Co.
	New York.....	Tisdale Lumber Co.
	New York.....	W. P. Young & Bros.
	Rochester.....	C. H. Rugg Co.
	Tonawanda.....	R. T. Jones Co.
New Jersey.....	Hoboken.....	Lawson & McMurray
	Newark.....	American Creosoting Co.
Pennsylvania.....	Pen Argyl.....	Fitzgerald-Speer Co.
	Ridgway.....	Hyde-Murphy Co.
Texas.....	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Beaumont.....	Kirby Lumber Co.
	Brownell.....	Fidelity Lumber Co.
	Call.....	Long Bell Lumber Co.
	Doucette.....	Long Bell Lumber Co.
	Doucette.....	Thompson-Ford Lumber Co.
	Grayburg.....	Thompson-Ford Lumber Co.
	Kirbyville.....	Kirby Lumber Co.
	Merryville.....	Kirby Lumber Co.
	New Willard.....	American Lumber Co.
	New Willard.....	Texas Long Leaf Lumber Co.

## PAINT INSPECTION

Michigan.....	Detroit.....	Detroit Graphite Co.
New Jersey.....	Edgewater.....	Midland Lined Products Co.
	Newark.....	Fatton Paint Co.
	Newark.....	Sherwin-Williams Co.
	Newark.....	F. W. Devos & C. T. Reynolds Co.

TABLE 1.—NAME AND LOCATION OF PLANTS AT WHICH INSPECTIONS WERE MADE DURING THE YEAR 1916 — (Continued)

PAINT INSPECTION — (Continued)		
State	City or Town	Plant
New York.....	New York.....	American Linseed Co.
	New York.....	A. R. Hauser Co.
	New York.....	Benjamin Moore & Co.
	New York.....	Cheeseman & Elliot
	New York.....	Debevoise Co.
	New York.....	F. W. Devoe & C. T. Reynolds Co.
	New York.....	J. W. Masury & Son
	New York.....	National Lead Co.
Ohio.....	Cleveland.....	Patterson-Sargent Co.
Pennsylvania.....	Dayton.....	Lowe Bros.
	Philadelphia.....	John Lucas & Co.
CEMENT INSPECTION		
New Jersey.....	Alpha.....	Alpha Portland Cement Co.
New York.....	Stewartville.....	Edison Portland Cement Co.
	Howe's Cave.....	Helderberg Portland Cement Co.
Pennsylvania.....	Bath.....	Pennsylvania Cement Co.
	Cementon.....	Whitehall Cement Co.
	Coplay.....	Coplay Cement Mfg. Co.
	Easton.....	Vulcanite Cement Co.
	Egypt.....	Giant Portland Cement Co.
	Nazareth.....	Phoenix Cement Co.
	Nazareth.....	Nazareth Cement Co.
	Northampton.....	Atlas Portland Cement Co.
	Ormsrod.....	Lehigh Portland Cement Co.
	Siegfried.....	Lawrence Cement Co.
	Siegfried.....	Lawrence Cement Co.
VITRIFIED CLAY PRODUCTS INSPECTION		
New Jersey.....	Jersey City.....	Robinson Clay Product Co.
	Keasby.....	American Vitrified Conduit Co.
	Perth Amboy.....	American Vitrified Conduit Co.
	South River.....	American Clay Product Co.
New York.....	Brooklyn.....	American Sewer Pipe Co.
	Brooklyn.....	J. P. Duffy & Co.
	Bronx.....	J. P. Duffy & Co.
	Long Island City.....	J. B. Raymond Co.
Pennsylvania.....	West Farms.....	American Sewer Pipe Co.
	Clermont.....	Clermont Sewer Pipe Co.
	Drummond.....	Shawmut Clay Mfg. Co.
	New Brighton.....	American Sewer Pipe Co.
	St. Mary's.....	St. Mary's Sewer Pipe Co.
CABLE (CONDUCTOR AND COVERING) INSPECTION		
Connecticut.....	Bridgeport.....	Electric Cable Co.
New Jersey.....	Perth Amboy.....	J. A. Roebbing Sons Co.
	Perth Amboy.....	Standard Underground Cable Co.
Rhode Island.....	Bristol.....	National India Rubber Co.
INSPECTION OF WATERPROOFING MATERIALS, ROAD SURFACING MATERIALS AND FELT PADS		
New Jersey.....	Bayonne.....	Standard Oil Co.
	Bayonne.....	The Texas Co.
	Bound Brook.....	Standard Paint Co.
	Manville.....	Johns-Manville Co.
	Maurer.....	Barber Asphalt Co.
	Rahway.....	Hydrex Felt and Engineering Co.
	Shadyside.....	The Barrett Co.
	Warner.....	Warner-Quinlan Asphalt Co.
New York.....	Brooklyn.....	The Barrett Co.
	Long Island City.....	A. C. Horn Co.
	New York.....	Gorman & Lees
Ohio.....	Cincinnati.....	Philip Carey Co.
CONCRETE AGGREGATES INSPECTION		
Connecticut.....	Branford.....	New Haven Trap Rock Co.
New York.....	Cedarcliff.....	Upper Hudson Stone Co.
	Clinton Point.....	Upper Hudson Stone Co.
	Marlborough.....	J. B. Rose Sand and Gravel Co.
	Northport, L. I.....	Henry Steers Sand and Gravel Co.
	Port Washington.....	Goodwin-Gallagher Sand and Gravel Co.
	Port Washington.....	Phoenix Sand and Gravel Co.—Kings Place
	Port Washington.....	Phoenix Sand and Gravel Co.—Phoenix
	Rockland Lake.....	New York Trap Rock Co.—Klondyke
	Rockland Lake.....	New York Trap Rock Co.—Rockland Lake
	Tomkins Cove.....	Tomkins Cove Stone Co.
	Verplanck.....	Upper Hudson Stone Co.
	Verplanck.....	Upper Hudson Stone Co.
ASBESTOS BOARD INSPECTION		
Pennsylvania.....	Ambler.....	Keasbey & Mattison Co.

TABLE 2.— MATERIAL INSPECTED AND ACCEPTED

MATERIAL	Public Service Commission, First District	New York Municipal Railway Corporation	Interborough Rapid Transit Company	Total
<b>STEEL AND IRON:</b>				
Structural Steel and Ornamental Iron:				
Mill inspection.....	78,200 tons	40,000 tons	8,100 tons	126,300 tons
Shop inspection.....	82,800 tons	20,000 tons	4,000 tons	115,800 tons
Reinforcing rods.....	4,500 tons	200 tons	10 tons	4,710 tons
<b>Rails:</b>				
Open hearth.....	14,200 gr. tons.	1,550 tons	20 tons	15,770 gr. tons
Manganese.....	1,600 gr. tons	.....	.....	1,600 gr. tons
<b>Track Materials:</b>				
Frogs, switches, fastenings, etc. ....	9,300 tons	2,400 tons	40 tons	11,740 tons
<b>Car Materials:</b>				
Car bodies, trucks, wheels, axles, etc. ....	.....	4,800 tons	.....	4,800 tons
<b>Cast Iron:</b>				
Tunnel lining.....	60,200 tons	.....	.....	60,200 tons
Columns, bases, manhole heads and covers, special castings, etc. ....	300 tons	.....	.....	300 tons
<b>HOLLOW METAL.</b> .....	2 tons	.....	.....	2 tons
<b>BRONZE, BABBITT METAL, ETC.</b> .....	.....	10 tons	.....	10 tons
<b>CONCRETE MATERIALS:</b>				
Cement — Portland.....	17,400 bbls.	.....	.....	989,200 bbls.
Cement — natural.....	34,400 bbls.	.....	.....	17,400 bbls.
Cement — mixed.....	.....	.....	.....	34,400 bbls.
Sand.....	140,800 cu. yds.	.....	.....	145,300 cu. yds.
Gravel.....	103,800 cu. yds.	.....	4,500 cu. yds.	108,300 cu. yds.
Broken stone.....	151,800 cu. yds.	.....	5,700 cu. yds.	157,500 cu. yds.
Mixed sand and gravel.....	171,430 cu. yds.	16,800 cu. yds.	1,400 cu. yds.	179,630 cu. yds.
Mixed stone and screenings.....	2,000 cu. yds.	.....	500 cu. yds.	2,500 cu. yds.
<b>BALLAST.</b> .....	42,000 cu. yds.	.....	.....	42,000 cu. yds.
<b>LUMBER:</b>				
Northern Inspection:				
L. L. Yellow Pine:				
Ceiling.....	.....	.....	10,300 ft. B. M.	10,300 ft. B. M.
Moulding.....	.....	.....	7,200 lin. ft.	7,200 lin. ft.
Crossed ties and timbers.....	1,024,600 ft. B. M.	.....	.....	1,024,600 ft. B. M.
Miscellaneous.....	1,688,800 ft. B. M.	.....	61,800 ft. B. M.	1,750,600 ft. B. M.

Frames.....	400 pos.	.....	400 pos.	.....	400 pos.
Moulding, stops, etc.	142, 100 lin. ft.	.....	142, 100 lin. ft.	.....	142, 100 lin. ft.
Seat.....	5, 100 pos.	.....	5, 100 pos.	.....	5, 100 pos.
Miscellaneous.....	235, 300 ft. B. M.	.....	235, 300 ft. B. M.	.....	235, 300 ft. B. M.
Oak:					
Doors.....	1, 130 pos.	.....	1, 130 pos.	.....	1, 130 pos.
Frames.....	450 pos.	.....	450 pos.	.....	450 pos.
Hand-rail.....	41, 100 lin. ft.	.....	41, 100 lin. ft.	.....	41, 100 lin. ft.
Moulding stops, etc.	76, 700 lin. ft.	.....	76, 700 lin. ft.	.....	76, 700 lin. ft.
Seat.....	370 pos.	.....	370 pos.	.....	370 pos.
Seats.....	70 pos.	.....	70 pos.	.....	70 pos.
Sheathing.....	137, 200 ft. B. M.	.....	137, 200 ft. B. M.	.....	137, 200 ft. B. M.
Ticket booths.....	48 pos.	.....	48 pos.	.....	48 pos.
Miscellaneous.....	48, 400 ft. B. M.	.....	48, 400 ft. B. M.	.....	48, 400 ft. B. M.
Spruce.....	1, 335, 500 ft. B. M.	.....	1, 335, 500 ft. B. M.	.....	1, 346, 500 ft. B. M.
Southern Inspection:					
Untreated ties and timbers.....	24, 500, 000 ft. B. M.	.....	24, 500, 000 ft. B. M.	.....	25, 532, 000 ft. B. M.
Station finish lumber.....	850, 000 ft. B. M.	.....	850, 000 ft. B. M.	.....	850, 000 ft. B. M.
WATERPROOFING MATERIALS:					
Asphalt.....	4, 900 tons	.....	4, 900 tons	.....	4, 940 tons
Coal tar pitch.....	2, 200 tons	.....	2, 200 tons	.....	2, 230 tons
Waterproofing fabric.....	858, 700 sq. yds.	.....	858, 700 sq. yds.	.....	806, 000 sq. yds.
ROAD SURFACING MATERIAL:					
Tarvia.....	12, 200 gals.	.....	12, 200 gals.	.....	12, 200 gals.
FELT PAD:	21, 200 pos.	.....	21, 200 pos.	.....	21, 200 pos.
VITRIFIED CLAY PRODUCTS:					
Electric conduits.....	87, 100 duct ft.	.....	87, 100 duct ft.	.....	87, 500 duct ft.
Sewer pipe:					
Straights.....	54, 500 lin. ft.	.....	54, 500 lin. ft.	.....	55, 025 lin. ft.
Specials.....	7, 800 lin. ft.	.....	7, 800 lin. ft.	.....	7, 603 lin. ft.
PAINT:					
Structural — Mixed.....					
Red lead.....	500 bbls.	.....	440 bbls.	.....	1, 050 bbls.
Linseed oil.....					350 tons
Station finish paint.....	300 bbls.	.....		.....	30 bbls.
Station finish varnish.....	2, 700 gals.	.....		.....	300 bbls.
Station finish paste.....	3, 450 lbs.	.....		.....	2, 700 gals.
Contract and tie paint.....	300 bbls.	.....		.....	3, 450 lbs.
Benzine.....		.....		.....	300 bbls.
		.....		.....	350 gals.

TABLE 2. — MATERIAL INSPECTED AND ACCEPTED — (Continued)

MATERIAL	Public Service Commission, First District	New York Municipal Railway Corporation	Interborough Rapid Transit Company	Total
PAINT — (Continued)				
Benzol .....	.....	.....	.....	100 gals.
Turpentine .....	.....	.....	.....	1,250 gals.
INSULATED WIRE IN CABLE:				
Signal telephone and emergency alarm equipment .....	.....	1,025,000 lin. ft.	.....	1,025,000 lin. ft.
MISCELLANEOUS:				
Insulators .....	.....	10,900 pcs.	.....	10,900 pcs.
Lead wire (caulking) .....	130 tons	.....	.....	130 tons

TABLE 3.—DETERMINATIONS MADE DURING 1916

	Number of determinations
Chemical laboratory:	
.....	36,368
on .....	9,304
oils and pigments .....	4,105
.....	1,384
.....	673
.....	186
.....	9
le .....	231
ustilation) .....	4,634
st River tunnels) .....	1,144
.....	36
.....	3
ors .....	6
metal .....	33
.....	28
e oil .....	13
llaneous .....	1,004
.....	<hr/> 59,161 <hr/>

TABLE 4.—TESTS MADE DURING 1916

ment testing laboratory:	
tests of briquettes .....	53,000
ession tests of 2-inch cubes .....	942
ess tests (air, water and steamed pats) .....	900
ess tests (autoclave) .....	989
s tests .....	600
time tests .....	600
al determinations .....	2,300
gravity tests .....	300
on and contraction tests on 1 in. x 1 in. x 6 in. bars .....	90

TABLE 5.—TESTS MADE IN CONCRETE LABORATORY, 38 PARK PLACE, NEW YORK CITY

e cylinders .....	1,200
cubes .....	200
briquettes .....	30
ical analyses of concrete aggregates .....	2,300
ility tests .....	20
n and steel .....	175

## MISCELLANEOUS TESTS

s lumber tests  
 a asphalt mineral aggregates  
 asion tests on bricks  
 a cement  
 ets  
 n floor hardeners  
 n felt pads  
 n grout  
 n nut lock washers  
 n hydraulic gauges used in underpinning work  
 tests on insulated wire  
 n timber  
 n turning of nuts on track bolts  
 n waterproofing compounds  
 n mixed sand and gravel

Miscellaneous includes determinations made on various asphalt mixtures, lubricating oil,  
 benzol, benzine, limestone dust, fireproofing compositions, etc.

**SPECIAL INVESTIGATIONS**

Investigation and tests of asbestos lumber  
 Checking up weight of cement as delivered  
 Investigation and tests of floor hardeners  
 Investigation and tests on grout  
 Investigation and tests of integral waterproofing compound  
 Development of new methods of determining hardness of concrete  
 Investigation of the value of graded aggregate over ungraded aggregate in concrete  
 Investigation into the use of stone screenings as a fine aggregate  
 Investigation and tests on the adhesion of mortar to the various surfaces  
 Investigation and tests of limestone and trap rock for ballast

**SUBSURFACE STRUCTURES**

Some difficult problems were presented for solution in connection with the work of the Division of Subsurface Structures during the year. The construction of the Broadway subway calls for a large mezzanine express station to be located at the intersection of Broadway, 33d street and Sixth avenue. The roof of this station lies very near the street surface, and has necessitated practically a complete relocation of subsurface structures from 32d street to north of 34th street; also changes in the gas mains at the intersection of Sixth avenue and 35th street, and the rebuilding of a large Empire City Subway Company's manhole located near 33d street, containing cables extending from two telephone exchanges and providing the necessary facilities for routing cables in a northerly or southerly direction on both Broadway and Sixth avenue, a very important link in the telephone company's system in that part of the city. The manholes of the Consolidated Telegraph and Electric Subway Company were also interfered with, and it became necessary to relocate some of them in the side streets. The street surface railroad construction had to be extensively modified, special construction being used for yoke supports, and the design of the duct banks was materially altered. The congestion became so great that it was found necessary to arrange with the Consolidated Gas Company for the elimination of certain of their mains, suitable additional cross connections being supplied for the mains which were restored. In order to provide the necessary control on the water main for the high pressure fire service, a horizontal valve also had to be installed, the cover being insufficient for the ordinary type.

The restoration of overhead wires where interference with the erection or operation occurs received considerable attention. The

to be cared for varied from very low voltage signal circuits to high-tension cables carrying 6,600 volts. At local stations longitudinal high-tension wires were carried above the structure on high poles and the low-tension wires brought around the structure by the use of side arms; transverse high-tension wires were also carried above the structure on poles of sufficient height to give a clearance of 22.5 feet above the base of rail, while low-tension wires were carried beneath the structure attached to the bottom of the girders with proper insulation. Where mezzanines were required at intersections, in some cases it was necessary to reconstruct all the circuits in underground subways. The more extensive construction occurring at express stations required the passing of the high-voltage wires through other streets and the reconstruction of feeder lines through lateral streets, while the low-voltage circuits were reconstructed to feed from opposite directions, thus making possible the omission of the wires at the mezzanines. On Westchester avenue, the line of the New York, Haven & Hartford Railroad Company, a high-tension service of 6,600 volts had to be redesigned, involving the use of four new towers and the reconstruction of four adjacent towers. Construction is now being given to wire restoration in connection with the preparation of the contract drawings for the extension of the Gravesend Avenue Elevated line. The country through which this extension will be built is extremely swampy, and the most available location for poles is that which will be occupied by the elevated structure; on this line therefore a complete wire restoration will be necessary.

Past experience having indicated the necessity of avoiding controversies between contractors and the Commission's engineers as to overhead restorations, the policy was adopted early in the project of incorporating in the contract drawings plans showing in detail what would be required of the contractor in connection with such work.

In the restoration of overhead trolley construction beneath the extended extensions of the rapid transit lines, it is frequently necessary to replace the original supports of the trolley wires. Where the cross struts of the structure were low, a trolley trough has been used attached directly to the steel work of the elevated

structure; where the lowest portion of the steel work, however, is sufficiently high to avoid contact with a trolley pole in the event of the trolley wheel leaving the wire, the ordinary signal wires have been retained, and where necessary have been attached to the elevated columns. Under the standard contract and specifications for rapid transit construction, only actual physical interference must be cared for; but this year, owing to a special agreement between the city and one of the railroad companies, it has been necessary to arrange for the relocation of all the wires of the trolley road on Gravesend avenue, as all poles were required to be removed, and the wires — whether signal, feeder or trolley — together with their various appurtenances and attachments were supported on the structure.

Where the Seventh Avenue-Lexington Avenue subway in Greenwich street crosses the Hudson & Manhattan Railroad Company tubes at Cortlandt and Fulton streets, very little cover is obtainable above the structure. While this has affected the restoration in that vicinity in general, especial difficulty was encountered in handling the mains of the New York Steam Company, and an entirely new control system had to be devised, including the construction of a new main in Cedar street between Greenwich street and Trinity place. Twin main construction had to be resorted to under the west sidewalk between Liberty street and the company's plant. In order to make use of the space available it became necessary to design and install a special "reverse bend" anchored at both ends, effecting changes in elevation and alignment and providing for expansion. The water mains were entirely reconstructed, a 12-inch main being replaced by two 6-inch mains laid on opposite sides of the street, as it was impossible to carry services across under the roadway.

To avoid delay to the contractor temporary locations were made for a 30-inch main at 42d street and Park avenue, which was finally restored is to be located in a specially constructed depression bay having a width of 10 feet. On West Broadway, at Chambers street, the steel design necessitated the use of a 15-foot depression bay to receive a 24-inch high-pressure, and a 20- and 12-inch pressure water main, as well as a 20-inch gas main.

At Chambers street and West Broadway a 20-inch gas main

was reduced to a 16-inch main and constructed of wrought-iron pipe by reason of its location under the street surface railway tracks and the congested condition of adjacent subsurface structures. A 30-inch main in 46th street and Seventh avenue is to be carried across the subway in specially constructed wrought-iron pipe, thus avoiding the use of either a manifold or a cast-iron box. In the by-passing of gas mains on the 14th Street-Eastern line at First avenue, located at a point near the gas company's plant, a new feature has been introduced in the overhead by-passes by the carrying of four temporary mains overhead on one trestle.

In the restoration of the street surface railroads some of the problems met with were the designing of special yokes and yoke supports at Cortlandt and Dey streets where there was a cover of less than 2.5 feet; the reconstruction of the turnout at 23d street and Seventh avenue, because there was not sufficient room to replace the large pits originally existing, and the elimination of several large vaults and pits on Seventh avenue north of 50th street, originally designed as a part of the old "Cable Road," but unnecessary for the present underground trolley system. As the cables transmitting the current for the operation of the street surface railroad in many cases were racked in these old vaults, the construction of new ducts and manholes became necessary.

The design of the railroad duct lines which are being built at various points along the rapid transit routes has received more attention than heretofore. On Eastern parkway at Nostrand avenue the requirements of the Interborough Rapid Transit Company have introduced an additional element into the restoration of subsurface structures, changing what was apparently a simple restoration into a complicated one. At the Bronx river it has been found necessary to place the ducts in a tunnel 200 feet long below the river, the cables being carried down through shafts approximately 65 feet deep on each side of the river.

Other work of the Division of Subsurface Structures during the year was to consider and report on (1), new entrances at the Woolworth, the Western Union and the Equitable buildings, and at Maiden lane; (2), a proposed passageway in 40th street between Broadway and Seventh avenue; (3), plans for the relo-

cation of sewer basins submitted by the Sewer Bureau of the City of New York; (4), requests on the part of various owning companies to extend or improve their lines; and (5), on new construction proposed by the Department of Water Supply, Gas and Electricity.

#### CONTRACTS NOS. 1 AND 2

In connection with the First Subway, known as Contracts Nos. 1 and 2, a summary is given under subdivisions (A), (B) and (C) as follows, of what has been accomplished in the way of such additional facilities, improvements and changes as it was found necessary to provide during the year.

#### (A) IN PREPARATION OF PLANS

Various changes have been proposed or made in the subway structure of Contracts Nos. 1 and 2, of which the following is a partial list, with a statement of the progress made in each case:

*28th Street Station.*—Approach agreement for entrance through new building at northwest corner of 28th street and Broadway has been executed and construction drawings have been prepared.

*Grand Central Station.*—Drawings have been prepared, and an agreement entered into, for an entrance through the new building at the southeast corner of Madison avenue and 42d street, and studies made for an extension to the mezzanine north of Madison avenue. Kiosk at curb removed.

*50th Street Station.*—Negotiations are under way for the removal of two kiosks at the northwest corner of 50th street and Broadway, providing for the substitution of an approach through the building, or for two stairways located at the building line.

*168th Street Station.*—Drawings have been prepared for the construction of an additional entrance on the west side of Broadway, involving construction of new elevator shaft, with provision for three elevators and a bridge over the tracks to connect the east and west platforms.

*181st Street Station.*—An additional elevator has been installed at this station. This elevator with all safety devices is now in operation.

*Cushman Street Station.*—Plans for waiting room inclosure and train platforms have been prepared.

*Construction of Manholes.*—The Board of Estimate has appropriated the necessary money for the construction of manholes at substation feeder points to provide ventilation in the event of smoke or fumes resulting from cable burnouts. The actual construction, however, will be deferred until a thorough trial is made of several schemes to prevent cable burnouts. The adoption of any of these schemes may make this reconstruction necessary.

*John Street Station.*—The construction of an additional stairway at the southeast corner of John street and Broadway, which has been under consideration, has been deferred indefinitely. The money appropriated for the construction of this stairway, however, has been applied towards the cost of constructing a stairway at the northeast corner of Maiden lane and Broadway.

*Wall Street Station.*—Negotiations have been concluded for the construction of a passageway to connect the Equitable building with both platforms of the Wall Street station. Plans for same have been approved and working drawings checked. Negotiations are now under way for passageways to connect this station with the building at No. 7 Wall street, and with the new American Express building.

*Atlantic Avenue Station.*—Studies have been made for connection with the Long Island terminal and with the Pacific Street and Atlantic Avenue stations of the New York Municipal Railway.

#### CONSTRUCTION UNDER SUPPLEMENTARY AGREEMENTS TO, OR EXTRA WORK ORDERS GIVEN IN COMPLIANCE WITH, CONTRACTS NOS. 1 AND 2.

*Additional Stairways to the Fulton Street Station at Cort Street and at Maiden Lane, Manhattan.*—Preliminary plans and estimates for this work were completed during 1914 and an indenture providing for the construction of the stairway at Maiden lane entered into with the D. A. Cushman Company on May 10, 1915. The work was postponed, however, by the refusal of the Board of Estimate and Apportionment to make the necessary appropriation. During September,

1916, the Commission requested the Board of Estimate to rescind an appropriation of \$8,000 which had been made for the construction of a stairway at John street and Broadway and apply this amount to the \$11,000 required for the construction of the Maiden Lane stairway. The Board of Estimate complied with this request and funds are now available for this work. Construction work has not, as yet, been started.

No further action has been taken on the Cortlandt Street stairway.

(2) *Vanderbilt Avenue Passageway between Grand Central Subway Station and New York Central Terminal and East Mezzanine Extension and Connection with Building at the Northwest Corner of Vanderbilt Avenue and 42d Street.*—The additional facilities constructed under the supplementary agreement for this work were completed during 1915, with the exception of the women's toilet at the south side of the east mezzanine extension, the completion of which was deferred pending the execution of the agreement. The agreement having been executed by the Commission on September 21, 1915, the work for this toilet was started shortly thereafter, and it was opened to the public on August 11, 1916.

(3) *Additional Mezzanine across Express Tracks and Stairway to Southbound Platform at Easterly End of Grand Central Station.*—To relieve congestion at the Grand Central station, plans were prepared for the construction of an additional mezzanine platform and stairway to the southbound platform at the easterly end of the Grand Central station. The agreement for this work has been approved by the Commission, and requisition has been made on the Board of Estimate and Apportionment for the appropriation of the funds required for the work, but no construction has been undertaken to date.

(4) *Additional Passageways, Shafts and Elevators to 168th Street and Broadway Station.*—Negotiations with the Interborough Rapid Transit Company for the construction of the additional entrance and exit facilities planned for this station having failed, the Commission decided to award the contract by public letting. Preliminary surveys have been completed, and the contract and drawings are being prepared.

(5) *Relocation of Stairway, 174th Street Station.*— On June 18, 1915, the Commission adopted a resolution directing the relocation of a stairway and two supporting columns at the 174th Street station of the Bronx Park branch of the Manhattan-Bronx Rapid Transit Railroad. Work was started on May 2, 1916, and by July 12, 1916, had advanced sufficiently to permit the stairway to be opened to the public. The entire work was completed by the latter part of August, 1916. This work is to be paid for by the Borough of The Bronx as part of the cost of widening 174th street.

(6) *Fourth Additional Elevator, 181st Street and St. Nicholas Avenue Station.*— The fourth additional elevator at this station, which the Interborough Rapid Transit Company was ordered to install by resolution of the Commission adopted on June 15, 1915, was put into operation on March 20, 1916. The installation of this elevator completes the work on the additional entrance and exit facilities, consisting of a shaft and four additional elevators, provided for in the Modifying Agreement of April 21, 1909.

(7) *Duct Line Along Southern Boulevard and Boston Road.*— On November 6, 1916, the Interborough Rapid Transit Company began the construction work under Contract No. 1 of a duct line consisting of twenty ducts running from Westchester avenue at Southern boulevard underneath the elevated structure of the West Farms extension, along Southern boulevard and Boston road and connecting with the duct line constructed along Southern boulevard south to 177th street, built in connection with Section No. 1 of Route No. 18.

(8) *Ventilating Outlets for Existing Manholes, Additional Emergency Exits and Additional Ladders and Stairways for Existing Ventilation Chambers.*— On December 7, 1915, the Commission made requisition on the Board of Estimate and Apportionment for the funds required for this work. Topographic and subsurface surveys have been completed but no construction has been undertaken to date, the Board of Estimate having requested the Commission to consider further the question of the additional facilities required.

(9) *Ticket Booth, Railings, etc., in Passageway between Atlantic Avenue Station, Brooklyn-Manhattan Rapid Transit*

*Railroad, and Pacific Street Station of the Fourth Avenue Subway, Brooklyn.*—On August 8, 1916, the Commission adopted a resolution directing the Interborough Rapid Transit Company to furnish and install the ticket booth, railings and gates required for the passageway connecting the Atlantic Avenue station of the existing subway and the Pacific Street station of the Fourth Avenue subway. A permit has been issued for this work, but no construction has been undertaken to date.

(C) CONSTRUCTION BY AUTHORIZATION OF THE COMMISSION

(1) *Wall Street Station, Passageway and Entrance to the Equitable Building.*—On January 29, 1915, an agreement was entered into between the Equitable Office Building Corporation, the Interborough Rapid Transit Company and The City of New York, acting by the Commission, for the construction of passageways to connect the Equitable building with the northerly ends of the northbound and southbound platforms of the Wall Street station.

Construction was started on October 27, 1915. During 1916, the passageway on the north side of Pine street, the stairways on the east and west sides of Broadway at Pine street and the passageway under the subway structure were practically completed. It is the intention of the Interborough Rapid Transit Company to put the passageway into use on or about January 1, 1917.

(2) *Fulton Street Station, Manhattan, Passageway and Entrance to Telephone and Telegraph Building.*—On August 23, 1915, an agreement was entered into between the 195 Broadway Corporation, the Interborough Rapid Transit Company and The City of New York, acting by the Commission, for the construction of entrance and exit stairways and passageways from the Fulton Street station to the Telephone and Telegraph building at the northwest corner of Dey street and Broadway. Work was started on January 7, 1916, and had advanced sufficiently to permit the opening of the exit stairway on the Broadway side of the building on August 2, 1916, and the opening of the entrance and passageway on the Dey street side on October 23, 1916. The work was completed in all its details before the close of November, 1916.

*Columbus Circle Northbound Station. New Exits and Entrances at the Building Line and Partly Through the New American Building.*—The stairways and entrances provided for in the indenture entered into by the Veronica Realty Corporation, the Interborough Rapid Transit Company and The City of New York, acting by the Commission, were sufficiently completed for the stairway on the east side of Broadway of Columbus circle to be opened to the public on January 16, and the stairway at the northwest corner of Columbus circle, north, and Central park, west, to be opened on January 15, 1916. The work was completed in all its details before the end of the year, 1916.

*191st Street Station. Reconstruction of Entrance through Building at Southwest Corner of 191st Street and St. Nicholas Avenue.*—The Morgenthau Realty Company has reconstructed the approach to the entrance to the 191st Street station in accordance with the terms of an agreement dated March 22, 1916, modifying the original agreement for an easement for the construction of the entrance and approach. The changes were made by the City of New York in connection with the construction of a building at this corner, and were completed during the latter part of November, 1916.

*Conduit Connections between Existing Power Substations and Cable Manholes.*—During the latter part of 1916, the Interborough Rapid Transit Company, in compliance with an Order of the Commission, installed conduit connections for the control of telephone cables between its power substations and the Manhattan-Bronx subway. The work of installing the following connections has been completed:

From substation No. 11 at City Hall place to subway at Reade street.

From substation No. 12 at 19th street to subway at 19th street and Fourth avenue.

From substation No. 13 at 53d street to subway at Broadway and 53d street.

From substation No. 14 at 96th street to subway at Broadway and 96th street.

From substation No. 15 at 143d street to subway at B  
way and 153d street.

From substation No. 16 at 132d street to subway at L  
avenue and 132d street.

From substation No. 18 at Simpson street to subway  
Westchester avenue  
Simpson street.

From substation No. 21 at Willow place to subway  
Joralemon street and  
low place.

## CHAPTER IV

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### ELIMINATION OF GRADE CROSSINGS

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Despite the fact that the Legislature of 1916 made no new appropriation for the elimination of railroad grade crossings in the City of New York, which has prevented the institution of new work, some progress has been made by utilizing the remainder of the appropriations voted in other years. There are at present within the city limits about four hundred grade crossings of high-speed railroads. Approximately one hundred of these are upon the so-called West Side tracks of the New York Central Railroad in Manhattan, a situation which is not within the control of the Commission, as the Legislature has empowered the Board of Estimate and Apportionment to deal with it. Hence, these crossings need not be taken into account in this report.

The congestion which is constantly increasing in the more built-up portions of the city causes existing crossings within these portions to become more and more serious factors of danger. This is especially true of the numerous crossings along the several lines of the Long Island Railroad in Queens Borough and upon the steam railroad lines in Richmond Borough. A number of these crossings are serious danger points which must be constantly brought into consideration. Elimination is highly important and necessary, and the Commission in all earnestness again urges the Legislature to make liberal appropriation for the coming year. As a minimum the Commission respectfully asks for an appropriation for 1917 of \$750,000 for the purposes of abolishing the more dangerous grade crossings.

The lapse of time and steady increase in traffic aggravate the situation and increase the necessity of remedial measures. Topographical conditions and railroad layouts are usually such that they do not admit of individual or isolated treatment of

crossings, but generally require that a group be eliminated part of one project.

The number of vehicles passing over grade crossings within the city limits shows a steady increase. In addition, as the several new rapid transit lines of the Dual System, which will parallel or run contiguous to certain railroad lines are completed, population in the adjoining territory will grow, so that the streets now crossed by railroads at grade will be used by constantly increasing numbers of persons.

The Commission has exercised its authority under the law to require protection of grade crossings under its jurisdiction, and has co-operated with various associations and individuals in providing additional safety precautions. These steps, however, do not furnish an adequate remedy, as is shown by the records of accidents.

An appropriation of \$750,000 will make available for purposes of grade crossing removal within the city the sum of \$3,000,000, as the Railroad Law provides that the State shall pay one-fourth, The City of New York one-fourth and the railroad company one-half of the total cost. But no order may be issued by the Commission until the State of New York, through its Legislature, shall have set aside the money necessary to defray its proportion of the cost.

There are included in this chapter tables which show that while the installation of various warning devices, referred to above, has brought about marked improvement in conditions, nevertheless absolute safety to persons and vehicles crossing tracks is not attained and cannot be assured by the best protective devices. The Commission continues in the belief that the only absolute remedy is to separate the grades of railroads and highways, so that the highway shall pass either under or over the tracks.

The engineers of the Commission have estimated that the elimination of all crossings at grade of railroads in the First District will cost at least \$30,000,000. It is apparent that the work cannot all be done at once, and that the expenditures must be spread over a series of years, with treatment of the most dangerous crossings first.

The Commission has been called upon by the National Association of Railway Commissioners for such co-operation and action as will render effective in New York State the cautionary measures looking to improved crossing protection recommended by the Committee on Grade Crossings of that Association. The several proposals have been approved by the American Railway Association and the American Automobile Association. They are as follows:

(1) That every grade crossing should be protected by an approach warning sign to be placed in the highway at a distance not less than 300 feet on each side of the railroad tracks, the sign to be a circular disc not less than 24 inches in diameter painted white with a black border and black cross lines with the letters "R R". Where deemed necessary this approach warning sign to be properly lighted at night.

(2) That the railroad companies maintain, within the limits of their rights of way, proper cautionary signs such as are now in use or authorized by law, and where deemed necessary such sign shall be equipped with a red light at night.

(3) That all lights displayed at night towards the highway at grade crossings shall be red.

(4) That all crossing flagmen use during the day a uniform disc 16 inches in diameter painted white with a black border and the word "STOP" painted thereon in black letters about 5 inches high, instead of the vari-colored flags which are now being used.

(5) The uniform painting of all crossing gates with alternate diagonal stripes of black and white.

(6) That the railroad companies, wherever practicable, be required to maintain their property at grade crossings free of obstructions to vision; also that the highway approaches to crossings shall be so graded that the free passage of vehicles shall not be impeded.

(7) That the National Association of Railway Commissioners, the American Railway Association, and the American Automobile Association, consider the advisability of agreeing upon whatever legislation may be necessary in the several states to make thoroughly effective the protection of grade crossings; and that it is our opinion that a uniform law requiring vehicles approaching such a crossing to reduce speed to a safe limit at the warning approach sign is advisable.

The Commission cordially approves these recommendations, especially that for the installation of the cautionary approach signs three hundred feet each side of the tracks, which is a pressing, present need. A bill to put into effect these recommendations will be presented to your honorable body with the Commission's endorsement.

At the end of the year the number of grade crossings existing in the city was 429, of which 100 are on the so-called West Side lines of the New York Central Railroad in Manhattan. Under the various appropriations made by the Legislature, the Commission since its creation has caused the elimination of 13 grade

crossings in the Borough of Queens and 3 in the Borough of Richmond. Work on 22 other grade crossings will soon be completed, making a total of 38 eliminated.

### EXISTING CROSSINGS

At the end of the year 1916, the existing grade crossings in the city, divided by boroughs and railroad companies, were as follows:

GRADE CROSSINGS IN THE CITY, 1916

BOROUGH	Public	Private	Total
Manhattan.....	106	.....	106
Brooklyn.....	45	3	48
Bronx.....	2	.....	2
Queens.....	147	16	163
Richmond.....	81	29	110
Totals.....	381	48	429

GRADE CROSSINGS BY RAILROADS, 1916

COMPANY	MAN-HATTAN		BROOKLYN		BRONX		QUEENS		RICHMOND		TOTAL	
	Pub- lic	Pri- vate	Pub- lic	Pri- vate	Pub- lic	Pri- vate	Pub- lic	Pri- vate	Pub- lic	Pri- vate	Pub- lic	Pri- vate
New York Central.....	100	.....	.....	.....	2	.....	.....	.....	.....	.....	102	.....
Balt. & Ohio R. R.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Lehigh Valley R. R.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Erie R. R.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Pennsylvania R. R.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Long Island R. R.....	.....	.....	30	2	.....	.....	147	16	.....	.....	177	18
E. R. Term. R. R.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	12	.....
N. Y. Dock Ry.....	.....	.....	3	1	.....	.....	.....	.....	.....	.....	3	1
Staten Island Ry.....	.....	.....	.....	.....	.....	.....	.....	.....	41	16	41	16
Staten Is. R. T. Ry.....	.....	.....	.....	.....	.....	.....	.....	.....	40	13	40	13
Totals.....	106	.....	45	3	2	.....	147	16	81	29	381	48

The following tables show the number of persons killed and injured at the various grade crossings located in the First District, divided as to railroad companies for each year from 1908 to 1916, inclusive:

## GRADE CROSSING ACCIDENTS IN WHICH PERSONS WERE KILLED OR INJURED

COMPANY	KILLED								
	1908	1909	1910	1911	1912	1913	1914	1915	1916
York Central R. R. Co.....		1	1	4	1	1	.....	3	.....
Island R. R. Co.....	15	12	13	24	7	8	6	5	3
Island R. T. Ry. Co.....	1	4	1	.....	2	2	5	3	1
lyn Rapid Transit.....	5	6	1	2	2	2	2	1	2
Totals.....	21	23	16	30	10	13	13	12	6

COMPANY	INJURED								
	1908	1909	1910	1911	1912	1913	1914	1915	1916
York Central R. R. Co.....	11	5	2	6	2	5	5	4	6
Island R. R. Co.....	13	10	19	11	6	7	9	11	4
Island R. T. Ry. Co.....	2	4	9	8	4	5	6	1	3
lyn Rapid Transit.....	15	16	2	3	2	1	6	6	5
Totals.....	41	35	32	28	14	18	26	22	18

## GRADE CROSSING WORK BY THE COMMISSION

For a considerable period before the creation of the Public Service Commission in 1907, the State had made no contribution toward the elimination of grade crossings within New York City. The Commission gave the matter very thorough consideration and each of its annual reports has urged the Legislature to make appropriations.

Various legislatures since 1907 have set aside sums from the State treasury, the legislature of 1910 appropriating \$250,000; that of 1911, \$250,000; that of 1915, \$200,000. The legislatures of 1912, 1913 and 1914 either failed to make a direct appropriation or such appropriations as were made were voided by gubernatorial veto, as stated in earlier reports. Some additional money, however, was provided by the legislature of 1914, by an enactment providing that one-half of the proceeds of the accumulated tax paid on the mortgage bonds of the First Subway should be applied to defraying the cost of elimination work within the City of New York. Added to the sum of previous appropriations, this brought the grand total to \$1,097,186.50 from the State, and made possible elimination work costing \$4,368,746, a large proportion of which is already completed and some portions approaching completion.

There is, however, a small balance still available out of the funds appropriated amounting to about \$300,000. Work under

contemplation would practically exhaust these funds. It has recommended that proceedings be instituted looking to the elimination of a dangerous group of five crossings on the New York and Rockaway Beach division of the Long Island Railroad, Ozone Park and another group of four dangerous crossings at Flushing on the Whitestone branch of the same company.

The latter group is particularly worthy of consideration for early removal because it is quite likely in the near future, if agreeable terms be arranged between the city and the railroad, that the city may lease a portion of the railroad line for an extension of the Corona branch of the Queensboro subway. If the lease be effected and rapid transit operation be undertaken over the Whitestone branch, frequent and rapid service will be provided and the danger at the grade crossings will increase.

Several lines of the Long Island Railroad are now operating substantially as rapid transit roads in so far as frequency of service is concerned. Many of the trains are fast expresses. On certain lines with grade crossings it will soon be necessary for the railroad company to institute headways in morning and evening rush hours of not more than three minutes between trains. This is the equivalent of a rapid transit service. With such service the continuance of grade crossings will become practically impossible.

The growth of highway traffic in recent years is a well known fact to which it is not necessary to give more than passing mention in this report. On suburban highways in the vicinity of New York the crowding is a real menace, particularly in the summer months. This is especially true on Long Island where the stream of vehicles is almost continuous from early in the morning until very late at night. Each year sees a greater number of automobiles in use, and each year the danger increases on account of this form of vehicular traffic and emphasizes the demand for a prompt and effective solution of the problem.

#### WORK OF THE YEAR

*Case No. 1261.*— The elimination of the dangerous grade crossings at Fresh Pond road and Metropolitan avenue (at Bushwick Junction) on the Montauk division of the Long Island Railroad.

completed in all details in August, 1916. The work had so progressed during 1915, that train movements were possible on the new work. The grades of these two streets were raised slightly while the railroad tracks were depressed.

Work on this elimination was begun in 1913, and continued through the summer of 1914, when it was shut down on account of inability of the railroad company to obtain the necessary funds to prosecute it. Work was resumed again early in 1915. A partial payment of \$75,000 by the State was made during 1915. The work was approved by the Commission on September 26, 1916, and the final accounting is well under way. It is expected that the streets will be disposed of and final payments made during 1917.

These two crossings were among the first considered by the Commission for removal. Former Commissioner McCarroll, as a result of grade crossing elimination hearings instituted by the Commission in 1910, rendered a decision in 1911 in which he stated that the double crossing at Fresh Pond road and Metropolitan avenue was one of the most dangerous in the city. The railroad is three-tracked at the point of the crossing. He stated that the streets not only crossed the railroad but crossed each other at the point of intersection with the railroad, and that these were main thoroughfares connecting thickly settled portions of the city. Vehicular and passenger traffic that crossed the tracks was particularly heavy, and double-track trolley service was maintained on each of the two thoroughfares. Previous to the beginning of removal, several fatal accidents occurred at the crossings in question. Estimates of the cost of removal of these two crossings give a figure of \$440,000, in addition to which the railroad company also expended considerable sums for real estate and improvement.

*Case No. 1262.*— In 1914, the Commission issued a final order for a slight depression of the street and the raising of the main line of the Long Island Railroad so as to pass over Farmers avenue, Hollis, and remove a dangerous crossing at that point. The work was completed in December, 1916. Final accounting is under way, and it is expected that the case will be closed during the year 1917. The State's share of the cost has been estimated to be about \$48,500.

*Cases Nos. 1756 and 1797.*— These cases were instituted following the action of the Legislature in 1914, which set aside funds from the accumulated tax on subway mortgage bonds available for grade crossing removal. By the orders in this case the elimination of three grade crossings at Pennsylvania avenue, Clifton avenue and Maryland avenue at Rosebank on the Staten Island Rapid Transit Railway in Richmond Borough was undertaken. The orders required that Pennsylvania avenue be raised 18 feet across the railroad tracks and the tracks be depressed two feet. It was further provided that Clifton and Maryland avenues be closed at the railroad track. The construction work was begun in 1915, and continued during 1916. The bridge approaches were practically completed at the end of 1916, but several additional months will be required before the work is finished in all details. Considerable difficulty has been experienced in obtaining the requisite labor and this has resulted in delaying somewhat the progress of the work.

The following grade crossings have been ordered eliminated, but as yet actual construction has not been begun:

*Cases Nos. 1264 and 1380.*—An order was issued in 1911, calling for the elimination of five grade crossings on the main line of the Long Island Railroad in the vicinity of the station at Queens. It was proposed to begin the actual construction work immediately after the completion of the Hollis station, but various conditions have arisen, particularly with reference to the inability to get a sufficient amount of labor, so that the work will not begin until the spring of 1917. However, all the necessary land has been acquired, construction plans have been prepared and the steel necessary for bridges is in storage. It is estimated that the cost of removing these crossings will be \$500,000, of which the State's share will be \$125,000.

*Cases Nos. 1780 and 1811.*— Under an order issued in 1914, there is to be undertaken the elimination of six grade crossings at Princes Bay and Pleasant Plains, Staten Island, on the line of the Staten Island Railway. The order in these cases requires the depression of the railroad for about half the length and the elevation for the remaining half. Construction cannot begin until additional land is acquired along the right of way of the railroad. The

question has arisen as to the method by which the necessary property shall be acquired, the railroad holding that all land for easements should be acquired by The City of New York.

The matter, however, has been taken under consideration, in view of the fact that it would be possible for the railroad company to acquire the land within a very much shorter period of time and at considerable less expense, than if the city acquired it by private sale or by condemnation. Inasmuch as the question of property acquisition is concerned in another case (No. 1261), it is possible that the decision in that case will lay down a rule which can be followed in Cases Nos. 1780 and 1811. An effort will be made to get actual construction under way during 1917. It is estimated that the cost of removal of these crossings will be in the vicinity of \$320,000, of which the State's share will be approximately \$82,579.00.

*Case No. 1936.*—The Commission issued a final order in January, 1916, calling for the elimination of ten dangerous grade crossings on the Long Island Railroad at Far Rockaway, Queens County. The elimination is to be accomplished by the depression of the railroad to such an extent as to cause very little change in the grade of the streets. Construction work will begin probably during the fall of 1917. Detailed plans are being prepared and the necessary property is being acquired. It is estimated that the work will cost \$1,300,000, of which the State's share will be about \$287,500. This work is to be undertaken under the appropriation made by the Legislature in 1915.

Other grade crossing matters have been considered by the Commission during the year as follows:

*Cases Nos. 2069 and 2069-A.*—Under these proceedings there was contemplated the elimination of four grade crossings on the Long Island Railroad at Edgemere in the vicinity of the work to be undertaken in the proceedings under Case No. 1936. It was proposed to use the materials excavated by lowering the grade of the railroad as provided for under Case No. 1936, for the building of an elevated embankment to carry the tracks of the railroad at Edgemere. The construction of bridges at the four crossings was also to be provided for. Hearings were held before the Commission, but residents of Edgemere did not approve of the

construction as proposed of an embankment of the railroad. They were willing that the railroad should be elevated, but desired the elevation to take the form of a steel viaduct. In view of the fact that there was not sufficient money to provide for a steel viaduct, the hearings were closed and the matter held in abeyance.

*Case No. 1989.*—Hearings were held upon the application of The City of New York for a determination as to the manner in which Palmetto and 13 other streets should cross the Luthers Cemetery line of the New York Municipal Railway Corporation in the Borough of Queens. Hearings in this case were adjourned indefinitely on request of the city authorities, to be resumed upon request of the same authorities.

*Case No. 2132.*—Hearings were held and closed on the application of the New York Central Railroad Company for a determination as to the method by which the existing bridge crossing the Port Morris branch of the New York Central Railroad at Morris avenue (156th street) should be repaired or rebuilt. Following the closing of the hearings the railroad applied for permission to withdraw its application. No decision has yet been rendered by the Commission either upon the application for permission to withdraw or upon the previous application.

Other matters in connection with railroad crossings which have been considered by the Commission during the year are:

*Case No. 1405.*—A foot-bridge was constructed across the tracks of the New York Central Railroad at 166th street, Borough of The Bronx, upon which the work was completed in 1915, and the final accounting completed early in 1916. This is not a crossing matter and the State is not obligated for any portion of the expense. The City of New York, however, shared in the cost to the extent of one-half, viz: \$3,677.09. Payment has not yet been made by the City as the matter is before the courts for adjudication as to whether the whole cost of the bridge should be borne by the railroad company because of the so-called "New York Depression Act," notwithstanding the fact that application was made by the City for a determination by the Public Service Commission as to how the street should cross the railroad under Section 90 of the Railroad Law. This law specifically states that the cost shall be borne one-half by the railroad company and one-half by the municipality.

*Case No. 1475.*—A new approach was constructed over the tracks of the Spuyten Duyvil-Port Morris (New York Central) Railroad at Exterior street, Borough of The Bronx, the final construction being completed early in 1916. The State did not contribute in the expense of this work, which was borne one-half by the City and one-half by the railroad, the City's share of the cost being \$31,987.28.

#### CHANGES IN EXISTING STRUCTURES

The responsibility for the changing of existing structures is borne one-half by the railroad, one-fourth by the City and one-fourth by the State.

*Case No. 1929.*—A final order was issued by the Commission in 1916 directing that a steel viaduct should be erected to pass over the tracks of the New York Central Railroad and the New Haven and Hartford Railroad at 241st street (Wakefield street). The order also directed that the alignment of the New York Central Railroad should be changed some distance to the west. The alignment of the railroad tracks has been substantially completed and trains are now being operated over the new work. The matter, however, has been taken to the courts and the City has appealed from the order of the Commission in respect of the location of the bridge in question. Property owners in the vicinity have also petitioned the Commission for a change in location of the bridge from 241st street to 238th street, but action upon this petition has been postponed by the Commission pending a decision by the courts upon the City's appeal. However, detailed plans are now being prepared for the proposed viaduct, several of which have already been approved by the Commission.

*Case No. 2006.*—A final order was issued in January, 1916, directing that the existing bridge at Gun Hill road across the Harlem division of the New York Central Railroad should be widened and lengthened. Detailed plans are being prepared and the work will be placed under construction within a few months. It is estimated that the State's share of the cost of this work will be \$2,500, although the total cost of the work will be much in excess of \$10,000.

The Commission has also given consideration to the following:

*Case No. 2123.*— Hearings have been held on the application of The City of New York for a determination as to how Third avenue between 189th street and Fordham road shall be extended or widened across the tracks of the Harlem division of the New York Central Railroad. Hearings have been closed but no decision has yet been rendered. The cost of this work will be borne one-half by the City and one-half by the railroad.

*Case No. 2065.*— On complaints received, hearings were held in regard to conditions obtaining at the Virginia Avenue crossing of the Staten Island Rapid Transit Railway at Rosebank, Staten Island. The under-clearance of the railroad bridge is low, causing a dangerous condition. Proceedings which were brought under the Public Service Commissions Law were dismissed with the understanding that The City of New York would make application for a determination as to how the existing structure shall be changed under the terms of Section 91 of the Railroad Law. Such an application has been made to the Commission and a hearing has been set for January 10, 1917. Under the Railroad Law, the cost of this change would be borne one-half by the City and one-half by the railroad company.

*Case No. 1959.*— On complaints received, hearings were held in 1915, in respect of conditions obtaining at Howard avenue on the Atlantic division of the Long Island Railroad in Brooklyn. It was originally contemplated that some sort of a grade crossing removal should be provided to carry Howard avenue across the railroad tracks with a view to preventing accidents at that point. Access from one side of the railroad to the other has been by way of an overhead foot-bridge with no provision for vehicular traffic. It was decided eventually not to carry Howard avenue across the railroad tracks at the present time, and an order was issued in December, 1915, directing the construction of a barrier wall on the north side of the right of way. Several of the accidents in the past at this point occurred because automobiles and other vehicles crashed through the right of way fence into the railroad cut. The barrier wall was decided upon to prevent such occurrences. It was completed in May, 1916, the cost being borne by the railroad company.

## NEW STREETS ACROSS RAILROADS

Under provision of the Railroad Law, the expense of the construction of new streets across railroads is borne one-half by the railroad company and one-half by the City, no State money being expended for this purpose. The following is the record of progress made on orders issued by the Commission under this section of the law.

*Case No. 1402.*—The carrying of Ashland street across the New York and Rockaway Beach division of the Long Island Railroad. Officials of The City of New York have not yet taken the necessary steps for the acquisition of the requisite property, although a determination in the case was reached in November, 1912.

*Case No. 1567.*—Lambertville avenue across the Montauk division of the Long Island Railroad. The same conditions obtain in this case as in the case just above mentioned, save that a temporary wooden foot-subway was constructed shortly after the issuance of the final order.

*Case No. 1932.*—Application was made by The City of New York during 1915, for a determination as to the manner in which Fourteenth avenue, West street and Cortelyou road should be extended across the tracks of the Prospect Park and Coney Island Railroad (Culver line) in the Borough of Brooklyn. Hearings were held and a final order was issued in January, 1916, specifying that the streets should not be opened across the railroad right of way until the trains were operating on the elevated structure then being built. This structure is now completed and it is probable that the work contemplated under this case will be carried out during the coming year.

*Case No. 1971.*—A final order was issued on August 8, 1915, in respect of the application made by The City of New York during that year for determination as to the manner in which 82d street and New Utrecht avenue should be extended across the tracks of the Nassau Electric Railroad Company and the New York Municipal Railway Corporation. The necessary work has not yet been undertaken, owing to the fact that the construction of the elevated railroad at this point has only recently been completed. It is expected that the work will be completed in the near future.

*Case No. 2082.*— Application was made by The City of New York during March, 1916, for a determination as to the manner in which a proposed new street, namely, the extension of 195th street (Catskill avenue) from Atlantic avenue (99th avenue) to Sagamore avenue (98th avenue), should cross the tracks of the main line of the Long Island Railroad. The location given is at Hollis, Borough of Queens. A final order was issued in June, 1916, providing that the thoroughfare in question should cross underneath the grade of the railroad. Detailed plans for the necessary construction work have been approved by the Commission and the necessary steel has been ordered. Proceedings have also been instituted for the acquisition of the necessary property and the construction work is expected to begin in 1917.

In addition to the work of eliminating grade crossings and the carrying of new streets across railroads, other cases relating to railroads have been attended to as follows:

*New York Connecting Railroad.*— The railroad has submitted to the Commission for consideration many plans showing proposed bridges, sewers, culverts, etc. These have been reported on. Complaints received as to the manner in which construction work was prosecuted were also investigated and adjusted.

*Long Island Railroad.*— The Commission during the year issued an order for the erection of a new station (West Bridge) at Jamaica avenue on the main line.

*Case No. 1637.*— Detailed plans of construction were approved and progress of the work from time to time reported. The Commission granted the application of The Long Island Railroad Company for a certificate of convenience and necessity to operate a branch between Flushing and Creedmoor.

Following hearings before the Commission in Cases Nos. 2022 and 2023, a determination was made as to the manner in which certain highways were to be crossed by the new extension. The work of constructing the line, however, has not yet been begun.

Hearings were held and a final order issued in respect of the station facilities at Brooklyn Manor station on the New York and Rockaway Beach division (Case No. 2070). A number of improvements were directed by the Commission, detailed plans presented by the railroad for these improvements were approved

and the actual work of construction was inspected and checked up from time to time.

Upon complaint as to inadequate station facilities at Woodhaven Junction on the Atlantic division and the New York and Rockaway Beach division, the Commission by order, following hearings, directed a number of changes and improvements. The order was accepted, detailed plans were approved and the work checked by the Commission while in progress (Case No. 2080).

Hearings were held and an order issued by the Commission directing The Long Island Railroad Company to make certain additional train stops during the summer months at Frank avenue, Edgemere. It was testified at the hearings that persons living in the vicinity of Frank avenue found it necessary in some instances to walk nearly a mile to reach the nearest station (Case No. 2103).

The condition of stations on the Rockaway division between Hammels and Rockaway Park was the subject of hearings and the Commission issued an order calling for numerous improvements (Case No. 2119).

Following complaint as to inadequate protection for passengers waiting for trains, a canopy was ordered to be erected on the west-bound platform of the East New York station, Atlantic division (Case No. 1891). The detailed plans submitted to the Commission were approved, and an inspection made of the work during progress.

GRADE CROSSINGS ORDERED ELIMINATED — CASES IN WHICH FINAL ORDERS HAD BEEN ISSUED UP TO DECEMBER 31, 1916

Case No.	Date	LOCATION	Estimated total cost	Estimated cost to City	Estimated cost to State
1266	{ Dec. 30, 1910 { June 28, 1912 }	Flushing, Queens Borough: Lawrence street, Main street, Parsons avenue, Percy street, Wilson avenue, Boerum avenue, Murray street, 22d street, Broadway — North Side division, Long Island Railroad.	*\$1,100,000 00	\$200,000 00	\$200,000 00
1270	Feb. 7, 1911	Huguenot, Richmond Borough: Amboy road near Huguenot avenue, Staten Island Railway.	72,438 41	18,109 60	18,109 60
1272	{ Feb. 24, 1911 { May 21, 1912 }	Great Kills, Richmond Borough: Crooks crossing on Amboy road, Staten Island Railway.	101,447 73	25,361 94	25,361 94
1282	Feb. 16, 1914	Queens Borough: Farmers avenue, Main line, Long Island Railroad.	194,000 00	48,500 00	48,500 00
1281	Dec. 8, 1911	Queens Borough: Fresh Pond road, Metropolitan avenue, Montauk division, Long Island Railroad.	400,000 00	100,000 00	100,000 00
1284	{ Dec. 8, 1911 { 1380 }	Queens Borough: Hempstead and Jamaica Turnpike, Bennett or Baylis avenue, Wertland avenue, Creed avenue, Madison avenue, Main line, Long Island Railroad.	500,000 00	125,000 00	125,000 00
1672	Sep. 30, 1913	Borough of Brooklyn: Railroad avenue, Atlantic division, Long Island Railroad.	8,270 08	2,067 52	2,067 52
1756	{ July 1, 1914 { 1797 }	Rosebank, Richmond Borough: Pennsylvania avenue, Clifton avenue, Maryland avenue, Staten Island Rapid Transit Railway.	69,500 00	17,375 00	17,375 00
1780	{ Feb. 5, 1915 { 1811 }	Richmond Borough: Amboy road, Sharott avenue (Pleasant Plains), Seguline, Bayview, Manee, Woodvale avenues (Princes Bay), Staten Island Railway.	330,316 00	82,579 00	82,579 00
1811	Aug. 3, 1915	Tracks, structures and other property at or near 241st street, in the Borough of The Bronx, New York Central Railroad and New York, New Haven and Hartford Railroad.	275,000 00	30,000 00	30,000 00
1936	Jan. 31, 1916	Queens Borough: Atlantic avenue, Park avenue, Smith street, Cornaga avenue, Hollywood avenue, Sea View avenue, Mott avenue, Carlton avenue, Cornaga avenue, Clark street — Far Rockaway division, Long Island Railroad.	1,150,000 00	287,500 00	287,500 00
2036	Jan. 20, 1916	Tracks, structures and other property at Gun Hill road in the Borough of The Bronx, New York Central Railroad.	10,000 00	2,500 00	2,500 00
			\$4,210,972 22	\$938,993 06	\$938,993 06

\*The Long Island Railroad Company has agreed to bear whatever excess there may be (estimated at \$300,000) in the cost of this improvement over and above its quota of one-half of an agreed total of \$500,000.

## GRADE CROSSINGS CONSIDERED FOR ELIMINATION

*in Which Hearings Had Been Held up to December 31, 1916. Excepting the First Two Cases in this Table, Eliminations Cannot be Ordered Until an Appropriation Has Been Made by the State*

LOCATION	Estimated total cost	Estimated cost to City	Estimated cost to State
Queens Borough: Lawrence street, Old Lawrence street, Bridge street, Myrtle avenue, Whitestone branch, Long Island Railroad.	\$400,000 00	\$100,000 00	\$100,000 00
Queens Borough: Grafton avenue, Broadway, Belmont avenue, Liberty avenue and Rockaway plank road, Ozone park, Rockaway division, Long Island Railroad.	*800,000 00	200,000 00	200,000 00
Queens Borough: 18th street, Seventh avenue, 19th street, 22d street, Whitestone branch, Long Island Railroad.	600,000 00	150,000 00	150,000 00
Queens Borough: Fifth avenue, Whitestone branch, Long Island Railroad.			
Queens Borough: Merrick road, Lake View avenue, Springfield avenue, Willow place, Montauk division, Long Island Railroad.	400,000 00	100,000 00	100,000 00
Richmond Borough: Clove avenue, Sheridan avenue, Graamere avenue, Garretson place, Parkinson avenue, Staten Island Railway.	100,000 00	25,000 00	25,000 00
Queens Borough: Laurel Hill boulevard, Flushing avenue, Grand street, Old Flushing avenue or Flushing road, Maspeth avenue, Haberman's factory (Munich street), Clifton avenue, Hobson avenue or Washington avenue, Montauk division, Long Island Railroad.	600,000 00	150,000 00	150,000 00
Boroughs of Brooklyn and Queens: Norwood avenue, Logan street, Euclid avenue, Crescent street, Railroad avenue, Enfield street, or Eldert's lane, Rockaway plank road, Shaw avenue, Benedict avenue, Woodhaven avenue, Lefferts avenue, Vanderveer place, Napier avenue, Union place, Wyckoff avenue, Grant avenue and Napier place, Greenwood avenue, Elm and Linden streets, Jefferson avenue, Johnson avenue, Beech street, Long Island Railroad.	†4,320,000 00	1,080,000 00	1,080,000 00
Queens Borough: Greenpoint avenue on Montauk division, Long Island Railroad.	260,000 00	65,000 00	65,000 00
Queens Borough: Gleason avenue, Sea View avenue, Grand View avenue, Rockaway boulevard, Far Rockaway division, Long Island Railroad.	220,000 00	55,000 00	55,000 00
	\$7,700,000 00	\$1,925,000 00	\$1,925,000 00

Alternate plans, \$980,000; \$754,530.

Other estimates vary according to the plans adopted.

### GRADE CROSSING PROCEEDINGS IN WHICH DETERMINATION HAS BEEN MADE AGAINST PRESENT ELIMINATION

LOCATION	Railroad	Estimated total cost	Estimated cost to City	Estimated cost to State
Stapleton: New York avenue and Bay street.	Staten Island Rapid Transit Railway and Staten Island Railway.	\$320,000	\$80,000	\$80,000
Long Island City: Queens Borough: Borden avenue, East avenue, Third street and Vernon avenue.	Long Island Railroad, main line.	200,000	50,000	50,000
		\$520,000	\$130,000	\$130,000

## GRADE CROSSINGS CONSIDERED FOR ELIMINATION

*Cases in Which No Hearing Had Been Held up to December 31, 1916, Although Evidence is Ready for Presentation*

LOCATION	Railroad	Estimated total cost	Estimated cost to City	Estimated cost to State
<i>Richmond Borough</i> Port Richmond Group: Richmond terrace, Broadway, Richmond avenue, Maple avenue, Elm street, Sharpe avenue, Lafayette avenue, Nicholas avenue.....	Staten Island Rapid Transit Ry., North Shore division.....	\$1,000,000	\$250,000	\$250,000
Mariners' Harbor group: John street, Douglas avenue, Newark avenue, Morning Star road, Granite avenue, Bay avenue, Simonson avenue, Van Name avenue, Van Pelt avenue, Central avenue, Union avenue, Harbor road, South avenue.....	Staten Island Rapid Transit Ry., North Shore division.....	1,000,000	250,000	250,000
		\$2,000,000	\$500,000	\$500,000

## RECAPITULATION

	Total estimated cost	Cost to City	Cost to State
Cases in which hearings had been held up to December 31, 1916.....	\$7,700,000 00	\$1,925,000 00	\$1,925,000 00
Cases in which no hearings had been held up to December 31, 1916.....	2,000,000 00	500,000 00	500,000 00
Cases in which a determination has been made against present elimination.....	520,000 00	130,000 00	130,000 00
Cases in which final orders had been issued up to December 31, 1916.....	4,210,972 22	938,993 06	938,993 06
	\$14,430,972 22	\$3,493,993 06	\$3,493,993 06

The following table shows the number of grade crossings in each borough and the kind of protection provided:

BOROUGH	Public	Private	Total	Gates	Flag-man, day only	Flag-man, day and night	Bell	Sign	No protection
Manhattan.....	106	.....	106	11	8	21	.....	.....	60
Brooklyn.....	45	3	48	13	.....	.....	.....	23	11
Bronx.....	2	.....	2	2	.....	.....	.....	.....	.....
Queens.....	147	16	163	133	5	1	10	5	2
Richmond.....	81	29	110	48	8	1	21	20	1
Totals.....	381	48	429	207	21	23	31	48	74

## CHAPTER V

### REGULATION OF TRANSPORTATION CORPORATIONS

During the year 1916, the Commission continued to exercise its powers under the Public Service Commissions Law for the supervision and regulation of transportation corporations within its jurisdiction. The Commission is empowered to supervise the affairs of all common carriers doing business within the First District. The law imposes upon these corporations certain duties, and gives the Commission the power to see that these obligations are fulfilled. Under the powers granted to it the Commission is authorized to investigate the service rendered by the several common carriers, to inquire into their methods of management, to examine their accounts, to investigate complaints and to make such orders as are necessary to insure safe and adequate service.

The several common carriers coming within the purview of the Commission include the trunk railroad, railroad terminal, street railroad (subway, elevated and surface lines), stage coach and baggage and transfer companies. The total number of such common carriers is 71, the same number as was under the jurisdiction of the Commission in 1915. Of this number 59 are street and electric railroad corporations, 9 are steam railroad corporations, 2 are baggage and transfer companies, and 1 is a stage coach company.

The total capitalization of such companies, namely, the stocks and bonds outstanding at the close of the year, was \$997,362,003. This total represented an increase of \$286,959,543 over the year 1907, in which year the Commission was created, when the total number of common carriers under its jurisdiction was 66 and the total combined capitalization was \$710,402,460.

#### CAPITALIZATION OF COMMON CARRIERS

	1907	1916
Street and electric railroads.....	\$672,785,000	\$958,723,641
Steam railroads.....	37,617,460	37,468,382
Baggage and transfer companies.....		1,130,000
Stage coach companies.....		50,000
Totals.....	<u>\$710,402,460</u>	<u>\$997,362,003</u>

The bonds of The City of New York, commonly known as corporate stock, amounting to \$90,000,000, invested by the City in rapid transit subways already in operation, are included in this list, the City being regarded as a proprietary railroad corporation. The figures given above include considerable duplication owing to the existence of intercorporate stock holdings.

Inasmuch as there is lacking definite information respecting the amount of capital actually invested prior to the establishment of the Public Service Commission, the table above given is based upon the par value of securities outstanding, including stocks, bonds and other long term debts. There is, however, included non-negotiable permanent debts of subsidiary companies of the controlling or other affiliated companies in the same system. This duplication in the case of common carriers amounts to approximately \$67,000,000, which should be subtracted from the total of \$997,362,003 above given.

New securities to the amount of \$45,355,000 and \$20,000,000 issued by the Interborough Rapid Transit Company and the New York Municipal Railway Corporation appeared in the totals of this year for the first time. The increase of 1916 over 1915 is \$83,491,261.

The total traffic and total revenue from passenger fares showed a remarkable increase during the year and were a marked contrast to the figures shown in the last Annual Report which indicated a decrease over the preceding year and were attributed to business conditions of the time and the effect of the European war.

The total number of passenger fares collected, which indicates the number of passengers for the fiscal year ending June 30, 1916, was 1,898,735,615 as against 1,807,632,726 for 1915 — the increase for the year being 91,102,889 as against a decrease of 5,571,630 in 1916. Since 1914, the net increase for the two years amounts to more than 85,000,000 passengers.

The increase for 1916, which in its turn reflected the business conditions, was the largest increase recorded in any one year, save in 1906 and 1910, when the increases were 120,858,479 and 128,845,272, respectively.

There has been a growth of more than 100 per cent in the traffic of New York City in the past sixteen years as indicated by these

res. The records show that traffic in the year 1900 totaled 353,058 passengers. When this figure is subtracted from grand total for 1916, the growth in the sixteen-year period is found to have been 1,052,735,615.

The following table shows the figures of travel year by year for sixteen years, together with the increases:

PERIOD ENDED JUNE 30	Number of passengers	Annual increase
1860	846,353,058	
1870	881,344,801	34,991,743
1880	938,989,964	57,645,163
1890	1,000,767,483	61,777,519
1900	1,065,984,910	65,217,427
1905	1,130,982,696	64,997,786
1910	1,251,841,175	120,858,479
1915	1,315,381,388	63,540,213
1916	1,358,000,407	42,619,019
1917	1,402,417,642	44,417,235
1918	1,531,262,914	128,845,272
1919	1,603,901,397	72,638,483
1920	1,680,913,935	77,012,538
1921	1,769,876,508	88,962,573
1922	1,813,204,356	43,327,848
1923	1,807,632,726	*5,571,630
1924	1,898,735,615	91,102,889

decrease.

A review of these statistics, together with others in the files of the Commission, shows that street railway passenger travel increases at a much more rapid rate than does population.

Year	Fares collected per capita
1860	43
1870	103
1880	152
1890	218
1900	246
1905	283
1910	321
1916	356

The figures for 1916 represent the operation of 12,417 passenger cars over 1,771 miles of track, exclusive of storage and yard tracks. Active passenger car miles operated were 328,585,401 against 318,973,588 in 1915, an actual increase of 9,611,813 indicating a very marked improvement in service.

The new subways, together with the old elevated lines operated by the New York Consolidated Railroad Company of Brooklyn, and the First Subway operated by the Interborough Rapid Transit Company, contributed almost equally to the year's increase in passenger travel, the increase reported by the former, including elevated and subway lines, being 26,667,600, and by the latter 25,919,569. The Interborough's elevated division reports an increase of 10,454,279 passengers, which was in part due to the fact that the new third tracks on these elevated lines were placed in operation on January 17, 1916, and have cared for a large additional traffic since.

The surface lines operated by the New York Railways Company carried 8,454,084 more cash passengers than in the year preceding. The increase on the Brooklyn Rapid Transit Company's surface lines amounted to 6,174,408, and that on the lines of the Third Avenue Railway Company, including the Bronx and North River line, but excluding the Yonkers line, to 6,587,738. The Second Avenue line in Manhattan was one of the few railroads to show a decrease, reporting for the year 186,157 less fares than for the year previous.

The Hudson & Manhattan Railroad Company reported an increase of 4,327,120 passengers, and there was an increase of 1,481,295 on the lines of the trolley car companies operating in the Borough of Queens, excepting lines of the Brooklyn Rapid Transit Company.

The following table shows the increases in the several boroughs of New York, in street surface railway travel separate from travel on the elevated and subway lines, which can scarcely be divided by boroughs:

STREET SURFACE RAILWAYS	Revenue passengers, 1916	Increase over 1915
Borough of Manhattan.....	427,373,847	11,822,731
Borough of The Bronx.....	84,535,737	3,032,934
Borough of Brooklyn.....	363,568,755	8,868,642
Borough of Queens (exclusive B. R. T.).....	54,167,403	1,481,295
Borough of Richmond.....	14,884,534	572,525
<b>Totals.....</b>	<b>944,530,276</b>	<b>25,778,127</b>

COMPARATIVE SUMMARY OF STREET RAILWAY OPERATIONS FOR EACH YEAR, JULY 1, 1907, TO JUNE 30, 1916  
(Includes all companies operating air/cars, elevated or underground lines in the City of New York, with the exception of the *Yonkers Railroad Company*. Statistics applicable to a single date refer to June 30, the close of the fiscal year)

ITEM	1908	1909	1910	1911	1912	1913	1914	1915	1916 (Provisional)
Operating companies.....	20	33	34	35	36	36	36	36	36
Length of line (miles).....	739	749	767	795	802	807	812	822	822
Length of all tracks (miles).....	1,561	1,561	1,595	1,646	1,666	1,683	1,708	1,730	1,730
Passenger cars.....	10,986	11,356	11,344	11,617	11,685	11,674	11,895	11,895	12,417
Officers and employees.....	40,501	39,800	39,800	39,927	39,275	40,713	39,588	40,936	40,936
Total salaries and wages.....	\$26,409,275	\$26,960,703	\$28,632,580	\$28,632,580	\$29,081,591	\$29,580,054	\$31,508,529	\$32,770,410	\$34,183,186
Passenger car miles (active).....	*271,924,024	*270,394,665	280,200,140	295,943,623	309,168,327	311,474,273	312,860,190	318,978,588	325,585,401
Increase per cent.....	8.33	Decrease 0.57	3.62	5.69	3.69	4.75	0.45	1.96	3.01
Revenue per cent.....	272,778,412	271,021,217	285,007,367	301,183,332	315,774,404	318,395,378	330,348,388	336,709,172	335,986,810
Number of transfer points.....	1,277	1,078	1,084	1,153	1,181	1,219			
Transfers collected.....	359,827,602	314,340,221	327,410,218	318,902,083	333,797,138	338,223,247	345,281,963	359,048,154	364,210,060
Passenger fares — number.....	1,358,000,407	1,402,417,642	1,531,262,914	1,603,901,267	1,680,913,635	1,769,576,508	1,813,204,358	1,907,682,728	1,988,735,615
Daily average.....	3,710,384	3,842,240	4,195,241	4,394,360	4,602,661	4,848,977	4,967,683	5,252,116	5,451,802
Passenger fares — amount.....	\$67,129,122	\$69,562,489	\$75,973,728	\$79,561,084	\$83,664,709	\$87,718,359	\$89,361,297	\$93,783,012	\$93,176,216
Increase per cent.....	3.03	3.67	5.17	5.21	4.88	3.89	1.87	4.45	0.86
Total transportation revenue.....	\$67,579,182	\$69,979,983	\$76,384,609	\$80,097,804	\$84,275,274	\$88,353,274	\$90,098,432	\$93,531,399	\$93,701,901
Total operating revenue.....	69,026,613	72,282,014	79,583,910	83,761,415	88,242,144	92,141,605	94,155,521	98,044,098	98,628,185
Total operating expenses.....	42,348,226	42,778,270	43,586,632	45,968,963	47,487,562	48,244,147	50,117,712	50,326,040	52,063,407
Increase per cent.....	11.72	1.02	3.52	5.22	3.35	1.59	3.88	5.41	3.41
Per cent of revenue.....	61.32	59.12	54.76	54.92	53.83	52.36	53.22	53.71	52.76
Taxes.....	\$4,340,228	\$4,992,677	\$5,148,324	\$5,493,851	\$5,803,790	\$6,068,820	\$5,895,856	\$5,811,290	\$6,238,709
Street railway operating income.....	22,338,149	24,511,047	30,886,684	32,261,570	34,950,782	37,801,938	38,141,674	37,693,743	36,351,099
Other income.....	1,714,600	1,951,433	1,964,943	2,101,668	3,775,967	3,768,925	4,115,719	4,312,642	4,679,286
Gross income applicable to corporate and leased properties.....	24,052,749	26,462,500	32,852,597	34,363,238	38,726,769	41,570,863	42,257,593	41,931,496	45,030,294
Interest, rents, etc.....	21,386,894	20,102,035	20,363,781	24,152,189	26,653,118	29,341,592	30,407,008	30,220,329	32,676,476
Net corporate income.....	2,665,765	6,360,465	9,589,816	10,171,074	12,073,651	11,849,985	11,501,137	11,501,137	12,353,816
Increase per cent.....	138.6	138.6	50.30	6.39	18.71	1.29	Decrease 3.10	Decrease 7.40	7.40
Accumulated surplus.....	— 10,271,726	14,794,468	9,865,527	14,865,186	12,700,000	17,239,496	18,559,173	18,064,386	19,752,004
Per revenue car mile (cents):									
Operating revenue.....	25.31	26.67	27.93	27.81	27.95	28.94	29.39	28.96	29.35
Operating expenses.....	15.52	15.78	16.26	16.27	16.04	16.15	15.64	15.49	15.49
Net revenue before taxes, etc.....	9.79	10.89	12.64	12.64	12.91	13.79	13.75	13.26	13.87

\* Includes mileage of special or chartered cars and mileage of regular cars between carhouses and initial route terminal ("idle mileage") excluded in other years.

† Insolvency and default of interest by Manhattan surface companies explain reduction in fired charges in 1909. The deficit of 1908 was changed to a surplus when the insolvent New York City Railway Company, which owned railway property in Westchester county, but none in New York City, abandoned the lease of the Metropolitan Street Railway and ceased to report. Its deficit amounted to more than \$12,000,000.

## STREET RAILROAD SERVICE AND FACILITIES

A Transit Bureau is maintained by the Commission for the constant inspection and checking up of the service rendered by the various transportation companies. Special functions of the Bureau are the inspection of service, investigation of complaints, assistance in the preparation of cases for public hearings by the Commission and the furnishing of such expert assistance as may be required in the handling and disposition of transportation matters by the Commission.

The Bureau is in charge of a Chief, with a staff of 1 general inspector, 1 traffic inspector, 5 supervising inspectors, 7 assistant supervising inspectors and 26 transit inspectors.

Investigations and inspections to the number of 1,099 were made during the year, 746 of which related to complaints and 353 to departmental matters, in addition to a large number of special investigations made for the members of the Commission or for heads of its bureaus. The different phases of this work included the checking of various conditions of operation with particular reference to such matters as heating, ventilation, overcrowding, sanitation of cars and stations, transfers, rates of fare, etc.

What may be termed the traffic day in New York City is divided into rush-hour and non-rush-hour periods. The rush-hour periods are generally from 7:00 A. M. to 10:00 A. M. and from 4:00 P. M. to 7:00 P. M., the heaviest press of traffic, termed the "peak load," usually being found in the morning between the hours of 8:00 and 9:00 and in the evening between the hours of 5:30 and 6:30. Investigations continue to show that as a rule there is greater congestion of traffic in the evening rush period than in the morning rush period. The evening period exceeds the morning period in number of passengers carried by approximately 12 per cent. but a very wide divergence is found between the traffic in the rush-hour periods and in the non-rush-hour periods. In addition, there is a considerable period of extra loading, particularly on the lines which pass through the center of Manhattan Island during the so-called theatre hours in the evening.

During the latter portion of the year the transportation problem, particularly in the Boroughs of Manhattan, The Bronx and Queens, was seriously complicated by strikes, which are reported

elsewhere in this volume. The First Subway and the elevated lines of the Interborough Rapid Transit Company were affected, together with the surface lines in Manhattan, The Bronx, Queens and Richmond. These strikes resulted in much irregularity of service and inconvenience to a great many persons. While they affected the service on the elevated and subway lines for a brief period, this soon became normal as far as the facilities were concerned. The general tie-up of the surface roads, however, threw a tremendous amount of additional traffic to the elevated and subway lines, resulting in congestion which slowed down traffic to a considerable extent. The excessive loading on elevated and subway trains resulting in crowding and increased delays at stations materially affected the operating schedules.

The First Subway at the end of the year was handling the largest number of passengers in its history, and the elevated lines showed a corresponding increase. One effect of the strike was the entire cessation for a time of any operation during the evening and night on a considerable number of surface lines, particularly those in the outlying portions of The Bronx, Queens and Richmond.

On December 1, 1916, counts made by the Commission's direction revealed that the surface lines in Manhattan were operating approximately 75 per cent of their normal service, and while there has been some improvement since that date, the service has not yet regained its normal proportions.

In Manhattan, the maximum movement on surface lines is about 120 cars per hour. This means that there is maintained at the "peak load" hours an interval between trains, or "headway," as it is termed in railroad operation, of approximately thirty seconds.

The greatest movement over the Brooklyn bridge, which is the maximum for Brooklyn operation, is 300 cars per hour, or a twelve-second headway.

Upon the rapid transit lines, owing to the different conditions, the minimum headways obtaining are considerably longer than on the surface lines. On the elevated lines in Manhattan the minimum headway is one minute six seconds, which means that approximately 54 trains pass a given point within an hour. In

Brooklyn, elevated trains operate on a minimum headway of 1 minute 20 seconds, or at the rate of 45 trains per hour past a given point. The First Subway, operated by the Interborough Rapid Transit Company, maintains a headway of 1 minute 48 seconds as a minimum. This means that under favorable circumstances 33 trains per hour pass the Grand Central station, the limiting point of traffic on that line. In the Fourth Avenue subway, Brooklyn, a minimum headway is maintained of 2 minutes, or 30 trains per hour, representing the operation in one direction across the Manhattan bridge.

#### EXPRESS SERVICE ON INTERBOROUGH ELEVATED LINES

The new express service installed on the elevated lines operated by the Interborough Rapid Transit Company resulted in a very marked increase in the service upon these lines. The express tracks were placed in operation on January 17, 1916. For a number of years an express service had existed on the Third Avenue Elevated line between 42d and 106th streets. The opening of the new section of the third-track permitted a very marked improvement in the express service on this line, with stops only at 125th, 106th, 42d, 23d, 9th, Houston, Grand and Canal streets, and Chatham square and City Hall. The running time on express trains was reduced from 1 hour to 45 minutes between City Hall and Bronx park. In addition, a new Saturday afternoon express service was introduced, which has proved of great benefit.

Prior to the operation of the third tracks last January, there had been no express service on the Second Avenue line. The new service began with the operation of 43 extra trains in the morning and 37 in the evening. During the Summer months an express service was also introduced on Saturday afternoons, and has served as a marked relief to the congestion prevailing on the Third Avenue line. Until the present year no attempt had been made to establish an express service during rush hours on the Sixth Avenue line. For a number of years, however, following the morning rush-hour period, a few extra trains were run south from 155th street, designated as "shoppers' expresses." The Sixth Avenue line was not third-tracked as were the Second.

and Ninth Avenue lines, but an express service has been  
 ed through both the morning and evening rush-hour periods.  
 e Ninth Avenue line, before reconstruction, an express serv-  
 s operated between 116th and Christopher streets without a  
 out with the placing in service of the new facilities, express  
 s were opened at 66th, 34th, 14th, Christopher, Desbrosses,  
 n and Rector streets. When the reconstruction work in  
 e vicinity of 155th street is completed and the Ninth Avenue  
 ed line is carried across the Putnam bridge to a connection  
 he Jerome Avenue extension of the Lexington Avenue line,  
 rvice will be still further improved. At the present time  
 ps are made north of 125th street. Upon the completion  
 reconstruction work only one stop will be made between  
 and 155th streets, namely, at 145th street.

istics collected by the Transit Bureau show an increase in  
 e mileage operated on both the subway and elevated divisions  
 Interborough Rapid Transit Company during the year.  
 d increases over the corresponding months of 1915, except  
 o of the Summer months, are shown in the car mileage  
 ed in the subway, while all months show a mileage increase  
 e elevated lines. The increase of mileage operated on the  
 ed lines is attributed in considerable part to the expansion  
 press service due to the opening of the new third-track  
 ies in January, and partly to supervision by the Commission  
 e increase in number of cars operated.

he following tables show the increased car mileage:

<i>First Subway</i>	1915	1916	Increase
.....	6,019,693	6,451,755	432,062
.....	5,716,939	5,992,563	275,624
.....	6,401,873	6,581,490	179,617
.....	6,166,577	6,271,787	105,210
.....	6,104,984	6,352,241	247,257
.....	5,779,804	6,012,836	233,032
.....	5,598,790	5,572,752	*26,038
.....	5,447,602	5,383,906	*63,696
.....	5,164,595	5,171,933	7,338

.....

*Elevated Lines*

	1915	1916	Increase
January.....	5,747,841	5,794,839	46,998
February.....	5,246,828	5,645,552	398,724
March.....	5,818,800	6,222,502	403,702
April.....	5,625,673	5,872,619	246,946
May.....	5,793,922	6,006,686	302,764
June.....	5,625,581	5,850,825	225,244
July.....	5,792,992	5,980,155	187,163
August.....	5,593,570	6,076,486	482,916
September.....	5,421,234	5,682,019	260,785

Many new traffic facilities and service improvements were placed at the command of the traveling public during the year. Some of the most important of these were the following:

## MANHATTAN

*Fifth Avenue Coach Company.*—The route of this company, formerly terminating at 145th street and Seventh avenue, was extended to 155th street and St. Nicholas avenue.

*Hudson and Manhattan Railroad Company.*—Window shields installed at two stations for protection of ticket choppers.

*Brooklyn-North River Railroad Company.*—Short line service reduced and through service increased.

*Second Avenue Railroad Company.*—Morning service increased 9 per cent and evening service 15 per cent on First Avenue line. Increased service with 12-minute headway throughout the day to East 92d Street ferry.

*Third Avenue System.*—A 12 per cent increase in Saturday night theatre service. Installation of crossover between Lexington and Third avenues on 59th Street Crosstown line. Installation of crossover between 13th and 14th streets on West Belt line. Installation of turnout at 28th street and Third avenue for short line service on 28th and 29th Street Crosstown line. Stop signs at several points.

*New York Railways Company.*—Additional transfer privileges to permit passengers from Brooklyn by way of Fourth and Madison Avenue line to transfer south at the Bowery and retransfer to Broadway lines at Post-office. Increase of 12 per cent in Sunday morning service between 6:00 and 8:00 on 14th Street Crosstown line. New crossover installed at Lewis street to give

extension of short line service from Clinton street to Lewis street  
Spring Street line. Ten per cent increase in morning rush-  
service on 116th Street Crosstown line. Eleven per cent in-  
crease in morning rush-hour service on Ninth Avenue line with  
transfer privilege from short line cars to through Brooklyn-bound  
cars at the west end of Williamsburg bridge.

*Interborough Rapid Transit Company (elevated lines).*—Bronx  
local trains, Third Avenue division, increased from 5 to 7  
northbound, between 9:00 and 10:30 P. M. Increase in local  
service northbound, Third Avenue division, 7:00 to 9:00 A. M.,  
10 to 15 trains per hour. Additional express trains added  
on Saturday afternoon service. Doors installed on waiting  
platforms of several express stations, Ninth Avenue line, allowing  
opening of rooms. Stairways materially decreasing congestion at  
Fourth street and Third Avenue constructed, also stairway from  
Fourth Avenue platform and bridge across Willis Avenue.

*Interborough Rapid Transit Company (subway division).*—  
Increased force on southbound platform at Grand Central station  
increased from 20 to 30 men.

#### THE BRONX

*Union Railway Company.*—Headway reduced from 5 minutes  
on Jerome Avenue line. Service of Willis Avenue line  
extended from First Avenue across 125th street to Fort Lee ferry  
frequent schedule provided.

#### BROOKLYN

*Brooklyn Rapid Transit System (surface lines).*—New line  
known as Eighth Avenue line established, operating from Eighth  
Avenue to Bay Ridge avenues to 39th Street ferry. New line estab-  
lished known as West End surface line operating from 39th street  
to Ninth Avenue to Coney Island. Sixty-fifth-86th Street line  
extended from Bath Avenue and Bay 19th street to Ulmer park.  
Frick Avenue line extended to Metropolitan Avenue.  
Seventh Street line rerouted from 9th street to 15th street. Put-  
nam Avenue line rerouted from Brooklyn bridge incline to Fulton  
street. Transfers granted from Broadway Elevated line to sur-  
face cars at Broadway and Marcy Avenue. Several different

transfer points established on surface lines. New trolley stations, waiting room facilities and other conveniences installed on several lines. Service increase obtained on Church Avenue, Sixteenth Avenue, Fifth Avenue, Bergen Street, Norton's Point, West End, Cypress Hills, DeKalb Avenue, New Lots Avenue and Coney Island and Brooklyn lines.

*Brooklyn Rapid Transit System (Elevated and Subway Lines).* Additional service operated on the Brighton Beach Elevated line to Park row in morning and evening rush hours, and below Kings Highway during all hours of the day. Service on the Fulton Street Elevated line increased by two trains during the evening rush hours, together with a slight increase in the Saturday afternoon service. Additional service on the Fifth Avenue Elevated line in evening hours. Service on the Sea Beach line below Kings Highway increased during rush hours; on the Broadway line by 12 trains during both morning and evening rush hours and on the Broadway line between Chambers street and Metropolitan avenue on Saturday afternoons. A change in the operation of the West End line from surface to elevated produced a material increase in facilities. Number of cars on Brighton Beach express trains increased during Summer months in non-rush hours from three to four. Increase from five to six cars on 50 per cent of Fulton street elevated trains during rush hours. Broadway elevated trains during rush hours increased from six to seven cars.

Additional facilities provided included new exits for passengers to the Chambers Street station of the Loop subway and the opening of an underground passageway connecting the Chambers Street station with the Brooklyn Bridge station of the First Subway. An underground passageway connecting the Pacific Street station of the Fourth Avenue subway with the Atlantic Avenue station of the First Subway opened for the use of passengers. Alteration in the train loading system at the Brooklyn bridge to relieve congestion and permit greater facility in handling of trains. Newkirk Avenue and Kings Highway stations, Brighton Beach Elevated line, made express stop during the Summer season. New station opened at Lefferts avenue, south side of Liberty avenue. Additional station stop created at West 17th street during certain

of the day in Summer on the Norton's Point line. Increased car operation on latter line during Summer months. New platforms constructed to facilitate loading and unloading trains on the same line. Culver Elevated line rerouted through Ninth Avenue station to allow passengers to transfer to and from West End line.

#### QUEENS

*New York and Queens County Railway Company.*— Investigation as to service resulted in hearings and final order specifying new rules. Appeal from the Commission's ruling was made to the courts, but the matter is still pending.

*Long Island Electric Railway Company.*— Sanitary arrangements made in Far Rockaway waiting room.

*Long Beach Electric Railway Company.*— Service increased to 71½ minutes headway on week days during Summer.

#### RICHMOND

*Richmond Light and Railroad Company.*— Eight per cent increase in morning rush-hour service on South Beach line. Twenty-eight per cent increase in morning rush-hour service on Rye Beachport line.

*Long Island Midland Railway Company.*— Improvement made in terminal facilities at Midland Beach.

*Long Island Railway Company.*— Additional evening train between St. George and Tottenville during the Summer. Improvements in handling of freight trains to minimize delays to passenger trains.

#### NEW YORK CENTRAL RAILROAD COMPANY

Improvements including new stairway entrances, renovation of waiting room, and enclosed platform shelter constructed at 125th Street station. Station platforms lengthened at Botanical Garden, Woodlawn and Williamsbridge stations. Investigation conducted as to local service. Matter still pending but some additional local service already provided in non-rush hours. Additional protection installed at grade crossings on Eleventh Avenue, Manhattan.

## LONG ISLAND RAILROAD COMPANY

Improvements in waiting-room facilities at Aqueduct station. Improvements in stations on Rockaway Beach division. New shelter at Bayside station. Platforms lengthened, stairways widened and shelter constructed at Brooklyn Manor station. Additional train service provided for Brooklyn Manor in morning hours. New station placed in service at West Bridge. Improvements at Woodhaven Junction station, including enclosing and heating shelter, and platform canopy erected. New station stop ordered at Frank avenue, Edgemere, during Summer months. Additional train connection between Woodside and Rockaway Beach. Restoration of train service discontinued by the company between Bushwick and Bushwick Junction. Additional cars added to several trains on various divisions in Summer months and in rush hours. Additional service secured for St. Albans and Springfield, and from Rockaway Beach on Sunday evenings during Summer months. Additional local trains operated on Atlantic division.

## TARIFF SCHEDULES

The Transit Bureau as one of its activities maintains supervision over the tariffs containing the rates, schedules and regulations of common carriers reporting to the Commission. Such tariffs according to the law must be filed with the Commission. During the year several investigations have been made in this branch of the Bureau's work, notably, one relating to freight congestion at New York and the embargo upon freight imposed by the railroads. The lack of cars and the freight embargo affected another phase of the work under the jurisdiction of the Commission, namely, that of subway construction. Much of the material for use in the construction of the new rapid transit lines is shipped to New York from far distant points. The embargoes upon freight and the lack of cars and other shipping facilities had their direct influence upon the subway construction work. A considerable amount of time and effort was put forth by the Transit Bureau in order to facilitate the movement of these materials needed in the subway work. Studies of the embargo situation showed that the average time taken for structural steel to reach New York from shipping point to storage yard was 72 days at

the beginning of the year. By May, however, the situation had been relieved to such an extent that two weeks was the average time. During the latter part of the year, however, the shortage of freight cars again became acute and freight congestion and delay threatened to be serious factors for consideration at the end of the year. Several complaints relating to the failure of express companies to make proper deliveries on express and baggage matter and as to storage charges on freight were also investigated by the Transit Bureau.

During the year the Commission issued 67 orders granting permission to various railroad companies to put into effect within less than 30 days certain changes in their rates or regulations. Permission authorizing reparation for unjust or unreasonable charges was granted in four instances.

#### EQUIPMENT INSPECTION

The Commission maintains an Equipment Inspection Bureau in charge of its Electrical Engineer, Clifton W. Wilder, which keeps the Commission informed regarding the physical condition of the tracks, roadbeds, rolling stock, signal systems and other parts of the equipment used by railroad and street railroad companies. There are five divisions to this Bureau, viz.: equipment inspection, which includes reports and investigations of accidents; appraisals, which has to do with physical valuations of corporation properties; construction accounts; electrical laboratory and engineering statistics.

*Accidents.*—The Public Service Commissions Law requires that the Commission shall investigate the cause of all accidents which result in loss of life or injury to persons or property and which in its judgment require investigation. This work is done largely through the Equipment Inspection Bureau, save in those instances where an investigation by the Commission itself is deemed advisable, and then the Commission is guided by the reports of the equipment engineers. There are reported to the Commission by telephone all accidents causing delay to traffic or interruption to service occurring on the lines of railroad and street railroad companies. Later the companies forward written reports on such matters, which are filed with the records of the Commission. The reports which are received by telephone are entered

upon typewritten slips and filed in the Equipment Inspection Division. Whenever reports in a certain class indicate a serious condition, a special investigation of the accident is made. In all such cases the matter is pursued until remedial measures have been taken where defective conditions have been disclosed. This procedure renders unlikely a repetition of accidents from similar causes.

The work of studying and classifying accident cases has been under way for a period of five years. All of the various classes of accidents which have occurred on the several railroad lines throughout the City have been tabulated, and curves have been plotted on a car mileage basis to show the increase and decrease of each class. It has thus been possible to ascertain very readily when any class of accidents were becoming frequent.

Following collisions which occurred on the elevated lines of the Interborough Rapid Transit Company during the year 1915, the Commission devoted a good deal of attention to the question of the installation of a suitable and efficient signal system upon the elevated lines. The investigation, in the effort to find a suitable signal protection, was conducted by the company or under order of the Commission dated December 10, 1915. The Interborough Company had installed at certain points on the express tracks of the elevated lines a system of signals similar to those now used in the First Subway. The Equipment Inspection Bureau, however, is continuing its studies of this situation with a view to making further recommendations to the Commission for the installation of a more complete system which will enable the Commission to formulate an order to require signal protection on the local tracks of the elevated lines.

Further investigations have been made during the year in connection with devices which have been developed by the engineers of the Interborough Company for filling the gap between cars and platforms at stations with curved platforms. Five additional space-closing devices have been installed during the year on the southbound express platform of the 14th Street station in the First Subway, making a total of six of these machines which have been in operation for the greater part of the year. Their operation has proved so satisfactory that there has been taken up with

the company the proposition of installing similar devices elsewhere at other curved station platforms. Plans have been prepared and approved for space-closing devices on the northbound platform at the Times Square station, and the matter of installing such machines at the Brooklyn Bridge station is under consideration.

Following an interruption to service on the Atlantic Division of the Long Island Railroad on March 15, 1916, when it was necessary for passengers to leave the stalled train in the tunnel and walk a considerable distance to the nearest tunnel portals, an investigation was made which showed the necessity of emergency exits at certain points. The matter was taken up with the railroad company, which later agreed to install four emergency exits with illuminated indicator signs. The Commission, however, may request the provision of additional exits.

During the winter of 1915-1916, the high tension transmission lines of The Long Island Railroad Company went out of service, crippling the electric train service for a time. The matter was taken up with the Commission, and the necessity of some arrangement or rearrangement of feeder cables became apparent. Plans have been prepared by the company for the installation of a duplicate transmission line over a part of its route to provide for an entirely separate and independent connection and to obviate the difficulties encountered last year. It is expected that the work will be completed during 1917.

Constant inspections of car barns and rolling stock of all transportation companies have been continued during the year, and as a result many defective conditions have been brought to the attention of the companies and steps taken to eliminate them. Decided improvements in the condition of equipment are noticeable and at the present time it may be stated that the general condition of the equipment of the several companies within the jurisdiction of the Commission is safe and efficient. Inspections of tracks and such paving as must be done by street railroad companies have also been continued. Particular attention has been given to see that all tracks and roadbeds were properly maintained, and the number of corrugations, bad rail joints and broken rails kept at a minimum.

*Appraisals.*— The appraisal work of the Bureau was continued during the year to determine the cost of properties of certain electrical corporations, this being done in connection with formal cases of the Commission which had in view a reduction in the electric lighting service. In addition, considerable work of a miscellaneous nature was accomplished.

All work in connection with the appraisal of the properties of the Edison Electric Illuminating Company of Brooklyn was brought to a close in 1916. The results of this appraisal were employed in reaching a determination as to the rate to be charged for electricity by that company, and terminated in a reduction by the Commission of the maximum rate from 11 cents to 8 cents. This is said to be the largest appraisal work of its kind ever undertaken, there being no record in existence of any appraisal of a larger electric light property than that of the above company.

An investigation is under way at the present time to bring up to date as of December 31, 1916, the inventory and appraisal of the property of the electrical department of the Flatbush Gas Company. The inventory and appraisal of the property of the New York Steam Company are still under way, although considerable progress has been made. The determination of the cost to the company of the present property has been practically completed, and the work of figuring depreciation is well advanced.

Considerable work has been done from time to time throughout the year in the preparation of information on various subjects pertaining to appraisal work for public utility commissions and various other bodies. Such information has been furnished to the Public Service Commission of the State of Maine, the New York State Tax Department, the New York State Civil Service Commission, the Corporation Counsel of the City of New York, and the various bureaus and departments within the Commission.

*Construction Accounts.*— There have been investigated and checked during the year through the Accounting Division of the Bureau the expenditures which have been reported periodically by a number of corporations, together with investigations and checking of expenditures of other companies in connection with applications for permission to issue securities. A total of \$9,008,829.40 was investigated and checked during the year, distributed among the following corporations:

Bronx Gas and Electric Company.....	\$164,148.53
Hudson and Manhattan Railroad Co.....	150,861.82
Manhattan Bridge Three Cent Line.....	56,792.46
New York Connecting Railroad Co.....	3,919,624.06
Third Avenue Railway Company.....	810,000.00
Edison Electric Illuminating Co. of Brook- lyn . . . . .	} 3,204,470.86
Kings County Electric Light & Power Co..	
Richmond Light & Railroad Co.....	152,931.67
Manhattan Elevated Railway Co.....	350,000.00
Staten Island Midland Railway Co.....	200,000.00
	<hr/>
	\$9,008,829.40

*Electrical Laboratory.*— The Commission maintains an electrical laboratory as a division of the Bureau of Equipment Inspection. It is equipped with apparatus and electrical instruments capable of taking electrical measures and electrical tests of widely urgent natures. During the year the work of this division has been divided into two parts: (1) On the regulatory side, comparing tests of new types of electric meters and other devices with additional tests and inspections; (2) work in connection with the rapid transit functions of the Commission, tests of an electrical nature as to materials to be used and installed on the new rapid transit lines.

*Engineering Statistics.*— There has been continued during the year the work of collecting engineering data and adding this information to the Unit Cost File of the Commission. The work during the year has consisted of bringing information already obtained up to date. All companies operating surface, elevated and subway cars have submitted regularly semi-annual and supplementary reports, covering additions, etc., in their car equipment. These have been examined and checked, and as a result there is at the present time in the files of the Commission a complete description of every passenger car operating in the district subject to the jurisdiction of the Commission.

Another function of this department is the periodic and regular inspection of the boilers of all locomotives operating within the district. A number of defects in boilers have been found, and these have been taken up with the companies, with a view to necessary repairs being made.

ACCIDENTS HAPPENING UPON RAILROADS AND STREET RAILROADS SUBJECT TO THE JURISDICTION OF THE PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT  
Year ending December 31, 1916

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Car collisions.....	44	102	121	66	49	91	119	151	185	319	360	340	2,031
Persons struck.....	228	204	245	245	200	247	246	226	195	277	293	315	3,011
Violations struck.....	1,020	1,380	1,046	1,082	1,241	1,249	1,315	1,327	1,289	1,064	1,190	2,315	18,050
Investigation.....	685	608	700	691	805	867	799	721	546	569	652	856	8,049
Alighting.....	404	458	530	479	790	842	953	894	699	559	622	653	7,962
Electrification.....	22	23	22	22	38	41	88	54	23	23	28	33	267
Derailments.....	233	246	225	200	233	277	226	222	206	192	328	245	2,933
Other accidents.....	2,247	2,380	2,780	2,414	2,862	2,709	2,665	2,631	2,197	2,431	2,349	2,525	20,245
<b>Totals.....</b>	<b>5,063</b>	<b>5,476</b>	<b>6,205</b>	<b>5,190</b>	<b>6,308</b>	<b>6,323</b>	<b>6,361</b>	<b>6,226</b>	<b>5,340</b>	<b>6,364</b>	<b>6,822</b>	<b>7,381</b>	<b>78,248</b>
<b>Injuries</b>													
Passengers.....	2,202	2,104	2,541	2,190	2,815	2,851	2,726	2,748	2,274	2,464	2,666	2,921	30,617
Employees.....	910	941	1,078	970	1,303	1,157	1,198	1,344	1,202	1,122	1,101	1,125	13,940
Others.....	385	367	414	433	482	446	455	482	424	614	580	553	5,635
<b>Totals.....</b>	<b>3,500</b>	<b>3,472</b>	<b>4,033</b>	<b>3,593</b>	<b>4,600</b>	<b>4,454</b>	<b>4,379</b>	<b>4,569</b>	<b>3,900</b>	<b>4,200</b>	<b>4,347</b>	<b>4,599</b>	<b>49,612</b>
<b>Deaths</b>													
Killed.....	17	26	17	13	13	23	32	23	32	13	21	25	255
Fractured skulls.....	4	4	4	3	6	11	7	5	3	3	8	6	70
Amputated limbs.....	2	4	3	1	1	3	2	...	2	3	1	1	23
Broken limbs.....	20	14	31	20	31	21	21	39	27	35	27	26	338
Other serious.....	60	51	68	78	70	88	87	126	115	84	93	89	1,038
<b>Totals.....</b>	<b>113</b>	<b>100</b>	<b>143</b>	<b>121</b>	<b>130</b>	<b>146</b>	<b>149</b>	<b>193</b>	<b>178</b>	<b>138</b>	<b>150</b>	<b>147</b>	<b>1,714</b>

## ACCIDENTS ON ALL LINES, YEAR ENDING DECEMBER 31, 1916

	Surface lines	Subway and elevated lines	Trunk lines	Terminal lines	Bus lines	Totals
<b>Car collisions</b> .....	1,957	42	31	.....	1	2,031
Persons struck.....	2,776	180	92	.....	10	3,011
Vehicles struck.....	17,990	29	89	.....	2	18,050
Boarding.....	5,329	3,133	137	.....	.....	8,649
Alighting.....	6,513	1,298	160	.....	.....	7,962
Electro shocks.....	6,170	135	63	.....	1	7,367
Derailments.....	2,626	33	203	.....	.....	2,953
Other accidents.....	14,184	8,732	7,269	71	13	30,245
<b>Totals</b> .....	51,635	13,572	7,993	121	27	73,248
<b>INJURIES</b>						
Passengers.....	17,457	11,985	1,167	.....	8	30,617
Employees.....	6,357	1,343	5,490	151	9	13,260
Others.....	4,771	140	705	4	15	6,635
<b>Totals</b> .....	28,585	13,478	7,362	155	32	49,612
<b>SERIOUS (included in above)</b>						
Killed.....	116	70	63	.....	3	254
Fractured skulls.....	49	5	6	.....	.....	70
Amputated limbs.....	12	3	.....	.....	.....	23
Broken limbs.....	215	56	46	4	7	328
Other serious.....	399	56	43	27	6	1,038
<b>Totals</b> .....	1,301	192	171	34	16	1,714

ACCIDENTS ON SURFACE RAILROADS AND REVENUE CAR MILES OPERATED  
For twelve months ending June 30, 1916

	B. R. T. System, 62,350,632 car miles	3d Ave. Ry. System, 16,168,678 car miles	Union Railway Sys- tem, 11,314,999 car miles	N. Y. Railways Co., 34,360,986 car miles	2d Avenue R. R. Co., 3,041,402 car miles	N. Y. & Q. Co. Ry. Co., 6,147,090 car miles	Roch. L. & R. R. Co., 3,316,903 car miles	Man. & Queens Trac. Corp., 1,000,131 car miles	Man. Bridge Three Cent. Line, 409,014 car miles	Long Island Elec. Ry. Co., 944,736 car miles	N. Y. & L. I. Trac Co., 1,673,186 car miles	N. Y. & N. B. Trac. Co., 610,604 car miles	Ocean Elec. Ry. Co., 483,360 car miles	Van Brunt St. & Rye R. R. Co.,	Yonkers R. R. Co., 230,564 car miles	Westchester Elec. Ry. Co., 2,471,210 car miles
Car collisions.....	289	227	153	143	6	58	5	8	2	4	7	2	7	1	1	3
Persons struck.....	774	564	219	1,053	53	76	17	9	9	38	8	21	35	1	1	6
Persons struck.....	4,839	3,366	1,568	3,464	132	503	29	71	71	38	80	21	7	1	1	6
Derailments.....	2,813	2,060	1,625	1,625	4	246	3	14	14	37	18	10	7	1	1	6
Electric shocks.....	2,968	628	1,163	1,673	32	352	19	8	8	37	40	8	24	1	1	6
Other accidents.....	42	29	78	78	25	26	25	40	1	67	38	4	1	1	1	22
Totals.....	3,968	3,741	1,369	3,366	25	1,093	12	353	3	72	79	12	35	2	2	2
	16,745	9,984	5,569	11,589	413	2,607	126	506	6	236	272	57	109	2	4	37
INJURIES																
Passengers.....	7,438	1,982	1,143	5,065	49	976	43	47	47	74	85	14	57	1	10	5
Employees.....	1,913	815	468	1,994	8	323	2	4	4	19	14	5	1	1	3	2
Others.....	1,157	745	368	1,567	91	239	38	22	22	22	51	1	15	1	2	9
Totals.....	10,508	3,542	1,979	8,666	148	1,538	83	73	73	115	150	19	73	2	13	16
Serious (included in above)																
Killed.....	29	24	9	28	2	2	2	3	3	2	2	2	2	2	2	1
Fractured skulls.....	14	28	13	8	2	2	2	3	3	2	2	1	1	1	1	1
Amputated limbs.....	3	3	1	2	2	2	2	3	3	2	2	1	1	1	1	1
Broken limbs.....	58	37	19	91	8	8	2	3	3	2	2	1	1	1	1	1
Other serious.....	247	45	264	160	20	74	6	16	16	2	13	1	2	2	2	5
Totals.....	351	137	306	289	30	80	11	16	16	2	17	4	4	4	2	6

## ACCIDENTS ON SUBWAY AND "L" LINES, YEAR ENDING DECEMBER 31, 1916

	New York Consolidated R. R. Co.	Hudson and Manhattan R. R. Co.	Interborough Rapid Transit Co.	Totals
Car collisions.....	14	.....	28	42
Persons struck.....	39	1	90	130
Vehicles struck.....	29	.....	.....	29
Boarding.....	312	12	2,859	3,183
Alighting.....	128	6	1,154	1,288
Electric shocks.....	43	1	91	135
Derailments.....	22	.....	11	33
Other accidents.....	1,610	71	7,051	8,732
<b>Totals.....</b>	<b>2,197</b>	<b>91</b>	<b>11,284</b>	<b>13,572</b>
<b>INJURIES</b>				
Passengers.....	1,719	82	10,184	11,985
Employees.....	168	8	1,177	1,353
Others.....	48	1	91	140
<b>Totals.....</b>	<b>1,935</b>	<b>91</b>	<b>11,452</b>	<b>13,478</b>
<b>SERIOUS (included in the above)</b>				
Killed.....	31	1	38	70
Fractured skulls.....	2	.....	3	5
Amputated limbs.....	2	.....	1	3
Broken limbs.....	7	2	47	56
Other serious.....	26	.....	32	58
<b>Totals.....</b>	<b>68</b>	<b>3</b>	<b>121</b>	<b>192</b>

## ACCIDENTS ON TRUNK LINES, YEAR ENDING DECEMBER 31, 1916

	L. I. R. R. Co.	N. Y. Central R. R. Co.	N. Y., N. H. & H. R. R. Co.	N. Y., W. & B. Ry. Co.	Penna. R. R. Co.	S. I. Ry. Co.	S. I. R. T. Ry. Co.	Totals
Car collisions.....	1	1	28	.....	1	.....	.....	31
Persons struck.....	31	48	2	2	1	2	6	92
Vehicles struck.....	4	27	.....	.....	.....	4	4	39
Boarding.....	102	27	.....	.....	.....	.....	8	137
Alighting.....	110	88	.....	.....	.....	4	8	160
Electric shocks.....	37	16	9	.....	.....	.....	.....	62
Derailments.....	.....	171	.....	.....	12	7	13	203
Other accidents.....	1,937	2,967	1,530	.....	730	10	95	7,269
<b>Totals.....</b>	<b>2,222</b>	<b>3,124</b>	<b>1,740</b>	<b>2</b>	<b>744</b>	<b>27</b>	<b>134</b>	<b>7,993</b>
<b>INJURIES</b>								
Passengers.....	588	450	34	1	53	11	30	1,167
Employees.....	1,145	2,267	1,413	1	501	4	69	5,490
Others.....	100	457	26	.....	104	3	15	705
<b>Totals.....</b>	<b>1,833</b>	<b>3,174</b>	<b>1,473</b>	<b>2</b>	<b>748</b>	<b>18</b>	<b>114</b>	<b>7,362</b>
<b>SERIOUS (included in above)</b>								
Killed.....	20	19	12	1	3	2	6	63
Fractured skulls.....	2	2	1	.....	1	.....	.....	6
Amputated limbs.....	1	5	1	1	.....	.....	.....	8
Broken limbs.....	7	28	7	.....	4	.....	.....	46
Other serious.....	6	18	.....	.....	22	.....	2	48
<b>Totals.....</b>	<b>36</b>	<b>72</b>	<b>21</b>	<b>2</b>	<b>30</b>	<b>2</b>	<b>8</b>	<b>171</b>

## ACCIDENTS ON TERMINAL LINES, YEAR ENDING DECEMBER 31, 1916

	Manh. T. E. R. Co.	D. L. & W. R. R. Co.	Erie R. R. Co.	Lehigh V. R. R. Co.	N. Y. Dock Railway	Brooklyn E. D. Terminal	Totals
Car collisions.....	.....	.....	.....	.....	.....	.....	.....
Persons struck.....	.....	.....	.....	.....	3	.....	3
Vehicles struck.....	.....	.....	.....	.....	.....	.....	.....
Boarding.....	.....	.....	.....	.....	.....	.....	.....
Alighting.....	.....	.....	.....	.....	.....	.....	.....
Electric shocks.....	.....	.....	.....	.....	.....	.....	.....
Derailments.....	1	.....	1	.....	1	68	71
Other accidents.....	1	.....	5	11	.....	39	47
<b>Totals.....</b>	<b>2</b>	<b>.....</b>	<b>6</b>	<b>11</b>	<b>4</b>	<b>98</b>	<b>121</b>
<b>INJURIES</b>							
Passengers.....	.....	.....	.....	.....	.....	.....	.....
Employees.....	1	.....	5	8	3	134	151
Others.....	.....	.....	.....	3	1	.....	4
<b>Totals.....</b>	<b>1</b>	<b>.....</b>	<b>5</b>	<b>11</b>	<b>4</b>	<b>134</b>	<b>155</b>
<b>SERIOUS (included in above)</b>							
Killed.....	.....	.....	.....	.....	1	2	3
Fractured skulls.....	.....	.....	.....	.....	.....	.....	.....
Amputated limbs.....	.....	.....	.....	.....	.....	.....	.....
Broken limbs.....	.....	.....	.....	1	1	2	4
Other serious.....	.....	.....	.....	2	.....	25	27
<b>Totals.....</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>3</b>	<b>2</b>	<b>29</b>	<b>34</b>

D., L. &amp; W. R. R. Co. No report made during the year.

## STRIKE INVESTIGATION

*Case No. 9126 — Investigation by the Public Service Commission into the Strikes on Rapid Transit Lines and Street Surface Railroads.*—Late in the month of July a serious strike which began on the Yonkers and Westchester lines of the Third Avenue system extended to the Union Railway system in The Bronx and then to the entire Third Avenue system. On July 26 employees of the Union Railway Company struck, on July 30 the employees of the Third Avenue system joined in a sympathetic strike, on August 4 employees of the New York Railways Company followed suit and on August 5 employees of the New York and Queens County Railway Company and of all the surface lines on Staten Island went on strike.

The Commission had taken cognizance of the situation from the earliest moment that the strike in Yonkers and elsewhere in Westchester County threatened to spread to New York City. At its meeting on Tuesday, August 1, by unanimous vote it adopted a resolution calling for a general investigation of every common carrier within the First District as to the manner of operation and

the adequacy and safety of service of such common carrier. The result of this action is shown in the following report to the Governor:

New York, August 10, 1916.

HON. CHARLES S. WHITMAN,  
Governor of the State of New York,  
Executive Mansion,  
Albany, N. Y.  
SIR:

You doubtless have seen in the public press accounts of the recent strike on the surface car lines of New York City and of the action taken by the Commission. The strike, which had largely tied up the Third Avenue system—the red car lines—gave every indication of rapidly spreading throughout Greater New York. The Commission on August the first retained the professional services of Mr. Julius Henry Cohen as Special Counsel, who has had large experience in industrial difficulties. Previous to this the Mayor had exerted his best efforts toward bringing about an adjustment and had called a conference at the City Hall with that end in view.

The Commission began its investigation into the Third Avenue situation Wednesday afternoon, August the second, and it continued it on Thursday and Friday. On Friday afternoon, August the fourth, it made preliminary findings, and recommendations to both parties looking to a settlement. On the following day Mr. Cohen and I worked out a plan which we believed would lead to a settlement. On that evening the Mayor called upon me at my country residence near White Plains and reported what he had done. I laid before him the plan that we proposed to follow. The Mayor thereupon said that he intended to call a conference of the representatives of the men and thereafter of the representatives of the New York Railways Company, and asked my coöperation, which I cordially gave. The remainder of the history of the negotiations which resulted in the settlement appears in the memorandum of the Commission which is enclosed herewith.

You doubtless will be gratified to learn of the effective part this Commission has taken in this important transportation situation. The Commission, however, does not feel that its duty is completed. We have learned very important lessons from this experience and these lessons may be utilized by the Commission in proposing legislation in accordance with the duty imposed upon it by the Public Service Commissions Act. We had intended in any event to apply to the Legislature for supplementary and amendatory legislation. In order, however, that such legislation as we hoped to recommend to the Legislature shall be well considered and discussed from every angle, we regard it as of sufficient consequence to present the entire situation

in detail with our tentative conclusions, together with certain phases of the subject, to be considered as a basis for legislation. This we hope will elicit criticism from every side. We intend to continue the investigations. In the meantime I take great pleasure in transmitting to you this preliminary statement of the entire situation, together with an outline of the legislative problems that are presented. We shall be glad to receive from you an expression of your own views upon the subject.

I have the honor to be,

Very truly yours,

OSCAR S. STRAUS,  
*Chairman.*

STATE OF NEW YORK

PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT

IN THE MATTER

of the

Investigation by the Public Service Commission for the First District under Sections 45 and 48 of the Public Service Commissions Law into the general condition of each and every common carrier within the First District, and as to the manner of operation and the adequacy and safety of service of such common carrier.

CASE No. 2126

MEMORANDUM AUGUST 10, 1916

On Monday, July 31st, the Commission's attention was drawn to a strike of motor men and conductors on the surface railroad lines causing interruption of service and great inconvenience. The strike began on the Yonkers and Westchester lines, extended to the Union Railway in the Bronx and then to the entire Third Avenue system. Newspaper reports indicated that, in all probability, the strike would spread over to the lines of the New York Railways, to the Queens County street car lines, to the Staten Island street car lines, and to all the subway and elevated lines in New York City. Accordingly, on Tuesday, August 1, 1916, the Commission, by unanimous vote, adopted the following resolution:

"Whereas this Commission is vested by law with the general supervision of all common carriers, railroads, street railroads, railroad corporations and street railroad corporations, and all corporations or persons controlling or operating any railroad or street railroad within its jurisdiction, and may recommend to the Legislature the enactment of such legislation with respect to any matter within its jurisdiction as it deems wise or necessary in the public interest, and not only has the power but is charged with the duty to keep informed as to their general condition, their capitalization, their franchises and the manner in which their lines owned, leased, controlled or operated are managed, conducted and operated not only with respect to the adequacy, security and accommodation afforded by their service but also with respect to their compliance with all provisions of law and their charter requirements,

"Now, therefore, be it

"RESOLVED that this Commission shall forthwith, beginning on Wednesday, August 2, 1916, at 2:30 o'clock in the afternoon of said day, at its office on the 25th floor of the building numbered 120 Broadway, in the Borough of Manhattan, City of New York, as required by Sections 45 and 48 of the Public Service Commissions Law, investigate and examine the general condition of each and every common carrier, railroad, street railroad, railroad corporation, street railroad corporation and corporation controlling or operating any common carrier, railroad or street railroad within its jurisdiction, its franchises and the manner in which its lines owned, leased, controlled or operated are conducted and operated, including the adequacy, security and accommodation afforded by its service, and with respect to its compliance with all provisions of law and its charter requirements."

On Wednesday, August 2, 1916, the Commission retained Julius Henry Cohen, experienced in industrial difficulties, as special counsel to the Commission. The first hearing of the Commission took place Wednesday afternoon, August 2, at 2:30, and proceeded from day to day until Friday, August 4, at which time the Commission felt that the existing situation called for a public statement and summary of the situation with strong recommendations to the parties. The Commission through the Chairman, therefore, made the following public statement:

"Without making any formal finding at this time, the evidence already discloses a situation which the Commission feels should be brought to the attention of both parties.

"It appears that President Whitridge of the Third Avenue system in 1913 entered into an agreement with the men on the Yonkers and Westchester lines that all differences between them were to be arbitrated; and that even the question whether or not a difference at issue was arbitrable should also be submitted to arbitration.

"There appears to be no dispute that the men on the Yonkers and Westchester lines not only were ready to arbitrate the differences between them, but they asked for the opportunity to arbitrate them.

"Mr. Maher, Sr., testified that, in his opinion, Mr. Whitridge overlooked or forgot this agreement to arbitrate, so that on the 11th day of July the situation was that there was in existence an agreement to arbitrate all differences between the parties, and the resolution adopted by the directors on June 26th last placed exclusively in Mr. Whitridge's hands the handling of the matter with the men.

"It is already testified by Mr. Maher, Sr., that this authority having been vested in Mr. Whitridge (who left for Europe on the 15th of July), he, Mr. Maher, felt that he had no authority to deal with the situation.

"It was this omission or failure, in our opinion, to deal with the situation in accordance with the agreement with the men, made in 1913, that precipitated, if it did not cause, the strike on the Yonkers and Westchester divisions.

"In the conference between Mr. Whitridge and the men, Mr. Whitridge contended that the matter of wages or scale of wages should be treated as one scale for the entire Third Avenue system. It is evident that efforts were already under way to organize the men on the Third Avenue system. These efforts, it would appear, were accelerated by the strike on the Yonkers and Westchester lines, releasing the men to meet with and organize their brothers on the remainder of the Third Avenue system.

"There can be no question that the strike on the Yonkers and Westchester lines and the events which followed in the train of this strike, including the strike on the other branches of the Third Avenue Railroad and the threatened difficulties with the lines of other companies throughout the City, came about as the immediate and logical result of the attitude of Frederick W. Whitridge, President of the Third Avenue Railroad, and the actions he took in the matter prove conclusively that he either intentionally violated the agreement he had made with the men to arbitrate and which he was in honor bound to keep, or that he was so negligent in his duties to his stockholders, his employees and the public, as to forget entirely this important agreement.

"We have already developed the fact that there is no real difficulty that stands in the way of the parties getting together. On both sides there is a willingness to arbitrate the only question of wages and working conditions that has thus far been presented. Indeed, the Union has stated that it is legally bound by its constitution to arbitrate all differences before declaring a strike. The difficulty—apparent but not real—seems to be that the men believe that they would be prevented from exercising their legal right to organize. The statements of counsel for the Third Avenue system and of the Manager now make clear that whatever the personal feelings of any officer may be, the Third Avenue Railroad is not as a railroad opposed to the organization of the men and recognizes clearly their legal and moral right to organize.

"On the other hand, the men take the position that they do not desire the settlement of their grievances by any outsiders, but that all grievances shall be adjusted by committees of the men on the lines with their employers, and in explaining what they mean by recognition of the Union, they have stated that they do not mean a closed shop, nor the exclusive employment of Union men, nor the interference with the management of the railroad by the Union.

"We think that this investigation has already developed points upon which the differences between the men and the officials of the railroad can be adjusted. We have been assured by counsel for the railroads that a meeting of the Board of Directors is to be held next Monday, at which authority is to be vested in someone in the absence of Mr. Whitridge.

"Without waiting for our complete findings upon the evidence, we now recommend that both sides get together, as it is apparent, from the foregoing recital, there are no substantial differences between them which justify the continuance of the conditions that now exist, and we believe that, if they take up this matter promptly in the spirit in which the Commission recommends, they will certainly arrive at a speedy and satisfactory conclusion."

After listening further to Counsel for both sides, the Commission adjourned until the following Monday at 2:30 in order to permit The Third Avenue Railroad Company to hold a meeting of its directors and to authorize someone to act and to give the parties opportunity to agree. In the meantime the Commission was called upon to analyze the existing situation and prepare itself to set forth clearly the rights and obligations of the parties. Obviously, the responsibility for this interruption in the operation of the railroads should be definitely fixed.

In 1877 the Massachusetts Railroad Commission instituted into the Boston and Maine Railroad strike such an investigation and made findings thereon. The result of that experience is described in a paper by Charles Francis Adams entitled "Investigation and Publicity vs. Compulsory Arbitration," forming a part of the report of the Anthracite Coal Commission appointed by the President in 1902. (See Bulletin 46, U. S. Department of Labor.) This Commission, in adopting its course, has profited greatly from the experiences in both of those situations—the Boston and Maine Railroad strike in 1877, and the Anthracite Coal strike in 1902, and also from the arbitration proceedings in the matter of the controversy between the Fifty-two Eastern Railroads and the Brotherhood of Locomotive Engineers in 1912. By Saturday morning, August 5, the Commission was prepared to express an opinion upon the entire situation. It had come to the following definite conclusions:

The right of men freely to organize is a legal right no longer subject to question. The right of men freely to select spokesmen or advisers is a corollary of this right. The right to deal or to decline to deal collectively with an organization is likewise a legal right. So, too, the right to employ or to refuse to employ members of a certain

organization is a legal right, justified morally in its exercise, according to the circumstances of each case. But the right of the State to have its public utilities operated safely, efficiently and continuously is also a legal right. Which of these rights is paramount? The rights of the people, or the rights of workers or employers? Whatever the application of these rights may be in private ventures, the right and the duty of the State in respect to its public utilities are clearly paramount. It is true that none of these rights—of the State, the worker or the employer—are arbitrable. But the adjustment of these rights so that each may be respected and properly balanced involves important considerations. While all of these parties have clear *rights*, the manner of exercising them is of the highest importance. The methods commonly accepted as moral are the methods of argument and persuasion, and the methods commonly condemned are those of coercion or oppression. Neither should the men coerce acceptance of their views, nor the company coerce acceptance of its views. Even if the company has the legal right to discharge Union men, it is questionable whether it can justify itself on moral grounds.

With public utilities, where the necessities of the people depend upon their operation, it should not be permitted to any group of men, be they employees or employers, to inconvenience and bring distress upon the whole people for the purpose of securing acquiescence with its views. This is to substitute coercion arising out of the necessities of the public for persuasion as a method for securing recognition of concededly non-arbitrable rights. The consideration of the method is an arbitrable matter.

These principles, in the main, were applicable to the existing situation and were confirmed by the previous conduct of the parties and by their agreements. The facts, briefly, were as follows:

Prior to 1913, Leslie Sutherland, as Receiver of the Yonkers Railroad—now part of the Third Avenue system—entered into an unwritten agreement to deal with the men on the line through their organization and with committees of the men employed on the lines. Similar agreement was made with Mr. E. A. Maher, Sr., then manager of the Westchester lines. The existence of these agreements and their binding obligation upon the present management was freely conceded before us by Mr. Maher, Sr.

In 1913, the men claiming that these agreements had been in certain respects violated, a strike took place in Yonkers resulting in tying up the entire street car system for a period of fourteen days and causing great inconvenience to the residents and business men of that city. On the 15th of January, 1913, the Public Service Commission of the Second District, having jurisdiction over these railway lines, summoned both the President of the road (Frederick W. Whitridge) and the men, held a regular session of the Commission, and brought sharply to the attention of both the paramount rights of the public and the duty of both to respect these rights.

The men were urged to return to work immediately, and President Whitridge was urged to arbitrate all future differences that might arise between the company and the men. It was the men particularly who asked for provisions to avert future controversy and Chairman Stevens suggested that both sides agree to the adoption

of the principle of arbitration as a means of settling all future controversy. After discussion (as appears from p. 28 of the minutes) Chairman Stevens said:

"Mr. Whitridge has agreed to accept, if I understand it, and he will correct me, if not, accept the proposition which the Public Service Commission has here and now made."

And again on p. 30:

"And the part of our recommendation which I understand Mr. Whitridge to accept, and as I say again, if I don't state it fairly, he is right here to correct me, and what I want him to accept is that immediately upon the resumption of work, that these matters and how the relations between the men and the company are to be carried on in the future, be at once the subject of discussion, and if it cannot be agreed upon between themselves, that I have said that it be arbitrated how it shall be reached, and that it shall be determined in a proper and suitable manner. In other words, that it be absolutely settled, and that it be settled not by what the men say, nor by what Mr. Whitridge says, but by what they can agree upon, or if they cannot agree, that it be settled by some competent, disinterested and patriotic collection of men outside.

"Now, that is just as plain as it can be. It simply brings about—you want here a statement that all matters in the future shall be arbitrated. My statement is that you shall take up all of these matters and agree upon them yourselves, if possible, because that is the better way, and then if that cannot be accomplished, that the way it shall be handled shall be arbitrated, and that it may proceed fairly, that it may proceed deliberately, that it may proceed thoughtfully, and that a final conclusion may be reached, just as soon as possible, without the people of Yonkers suffering while it goes on. It protects the right of every man; it insures a final settlement of this controversy. It can be done. If you are willing to listen to the voice and the reason of the Commission here to-day, you will be in the future, and you know how it will be exerted; it will be exerted for the purpose of settling these matters so they will stay settled, and in the interest of justice and of right, as between man and man. That is what will be done, so far as we have any voice or any power in the matter."

To which Mr. Whitridge replied:

"I think you have expanded my statement a little, Mr. Chairman, but I will let it go."

A little later Mr. Whitridge having said (p. 32): "Of course there are certain things, you know, that are not arbitrable" and, further discussion ensuing, having stated that he was willing to leave to the Chairman of the Commission in any case of controversy the determination of whether or not the matter was in fact arbitrable (p. 47), the Commission drew up and submitted to both parties the following three propositions:

1. The operation of the road shall be restored immediately under the employment conditions prevailing on December 31, 1912, with all men then employed restored to duty, without prejudice to them.

2. That the Company and the men shall consider all matters in difference, and that any matters upon which they shall be unable to agree, shall be submitted to arbitration by arbitrators selected in the usual manner.

3. If any matters are claimed by either party not to be arbitrable, the question whether such matters are properly the subject of arbitration shall be arbitrated (pp. 43, 44, 47).

At p. 49, after further discussion, Mr. Whitridge then said:

" \* \* \* I have not only accepted your proposition, but I have asked these men to return to work and I have begged them to return to work \* \* \* But I accept your proposition as you asked me to do because you made it."

Thereupon the men, through Mr. W. B. Fitzgerald (who testified before us) acting as their spokesman, urged that for their protection the agreement should be reduced to writing and actually signed by Mr. Whitridge, to which Chairman Stevens said:

"My dear sir, if Mr. Whitridge does not stand by what the Commission has said to-day, he could not exist nor live in a civilized community for five minutes. He could not do it. He has got to stand by what he has said here to-day, and it is not matter of personal recollection. It is a matter that will be recorded here, and you will have a copy of it just exactly as it stood, and if he should retract or withdraw one hair from it, his position in this community in the City of New York would be absolutely intolerable, and he could not live here. The finger of scorn would be pointed at him, and he would be ostracized by all decent men." (pp. 49-50)

Then Mr. Curran, Corporation Counsel of Yonkers, urged the men to accept the stipulation without further writing and said:

"Mr. Chairman, as I understand it, this is a public record, and the fact that Mr. Whitridge acquiesced in it is a stipulation made before this as an open court here." (p. 51)

to which Chairman Stevens replied:

"Yes, sir.

"MR. CURRAN: And just as good as if it were in writing.

"MR. STEVENS: It is. It is just as binding as though it was in writing, and could be enforced just as much as though it were in writing. It is just as clear and conclusive as though it were written down here and signed by everybody, just as binding upon everybody." (p. 52)

A recess was then taken, after which Chairman Stevens said:

"Now, it has been suggested to the Commission that the Committee should have some written statement which they can show to the men on their return to Yonkers, and the Commission think that is a very reasonable request. I have accordingly drafted something here, which is in pencil yet, and will be transcribed and signed, as soon as it can be done by the stenographer. It has been submitted to all of the Commissioners.

"At a meeting of the Public Service Commission of the Second District of the State of New York, held at its office in the Metropolitan Building in the City of New York, on the 15th day of January, 1913, for the purpose of endeavoring to secure an immediate resumption of service upon the Yonkers Street Railway, the Commission made several propositions which it asked both the employees of the road now on strike, and Mr. Whitridge, the President of the Company, to assent to. Such propositions and the response of all parties thereto were taken down verbatim by the official stenographer of the Commission, and are a public record accessible to every one, and a copy of which will, as soon as the minutes are transcribed, be furnished to the person designated by the employees to receive the same.

"Such minutes show clearly what Mr. Whitridge agreed to on behalf of the Company.

"The following is a correct statement of the propositions of the Commission:

"1. The operation of the road shall be restored immediately under the employment conditions prevailing on December 31, 1912, with all men then employed restored to duty without prejudice to them.

"2. That the Company and the men shall consider all matters in difference, and that any matters upon which they shall be unable to agree shall be submitted to arbitration by arbitrators selected in the usual manner.

"3. If any matters are claimed by either party not to be arbitrable, the question whether such matters are properly the subject of arbitration shall be arbitrated.

"Mr. Whitridge clearly assented to the first and second proposition, but as to the third made the statement that some questions are not arbitrable. He finally said that he would abide by the decision of the Chairman of the Commission as to what questions are arbitrable, and after some further colloquy, stated that the position of the Chairman that the question of what questions are arbitrable should be submitted to arbitration, was correct. The Commission understands therefore, that Mr. Whitridge assents to the third proposition which was read in his presence." (pp. 52, 53, 54)\*

Upon this record and agreement, the men returned to work. That this agreement was applicable to the controversy arising between the men and the company because of the refusal of Mr. Whitridge to arbitrate is now frankly admitted by Mr. Maher, Sr., in his testimony before us.

"Q. Do you want the Commission to understand now that the attitude of the railroad company is one of willingness to carry out the agreement you made in 1913 to arbitrate the differences between yourselves and the men? A. I not only am willing to say that, but I am willing to go further and say if Mr. Whitridge's attention had been called at the time that the conference was held with the men to the fact of that agreement of 1913, I haven't the slightest doubt in the world that he would have done just as that agreement says he agreed to do, at that time.

"Q. Then, do we understand, Mr. Maher, that the present position of the company which you are authorized to express is one of general willingness to arbitrate any of the differences that exist between yourselves and the men? A. Yes, sir, that is, as far as I am concerned; and I haven't any doubt that that would be the sentiment of the Directors of the company." (p. 172)

\* On August 9, 1916, Mr. Cook, Counsel for the Third Avenue Railway System asked the Commission to add to the record the following telegram sent by Mr. Whitridge to Chairman Stevens on January 16, 1913:

"The Times and other papers this morning contain what purports to be a document signed by you and given to the men, but of which I have not received a copy, giving the gist of your conference yesterday. The last seven lines of that statement beginning with the words 'and after some further colloquy' are erroneous and contain a further expansion of what I said, to which I do not assent."

Mr. Stevens replied on January 17, 1913:

"I received yesterday afternoon, the 16th inst., your telegram with reference to the statement signed by me appearing in the Times and note that you do not assent to the last 7 lines of such statement beginning with the words 'and after some further colloquy.'

"The statement in question was prepared by me a short time after you left and was submitted to the other Commissioners and we all agreed that it contained a correct statement as we understood the facts. I thereupon gave the original to the representatives of the motormen and copies were delivered to representatives of the press.

"It is very much to be regretted that there is not a perfect agreement in recollection as to the conclusions reached. I apprehend, however, that it will occasion no trouble or embarrassment to anyone in the future, since there is but little if any possibility that it will ever become a practical question whether the statement is correct or not.

"The results of yesterday's conference are so happy that I have no doubt a spirit of forbearance and concession on all sides, which will undoubtedly be manifest in the future, will bring about a satisfactory settlement of all matters which are in controversy.

"I can but believe that you agree with me in thinking that great progress has been made in straightening the affairs of the Yonkers Street Railway."

This telegram and correspondence show conclusively that the agreement to arbitrate was made and that Mr. Whitridge's only exception was to the complete accuracy of the record as compared with his recollection of the agreement to arbitrate, whether or not a question was arbitrable.

In view of the fact that the only question involved in July, 1916, was one of wages — a clearly and concededly arbitrable matter — this question of Mr. Whitridge's recollection is academic. Any agreement to arbitrate contemplates that either party may raise the point that a matter is nonarbitrable, but it does not rest with either party arbitrarily to determine that a matter is nonarbitrable, and Mr. Whitridge's position was that he would not arbitrate the matter of increasing wages. Upon his point the record shows from the testimony of Mr. Maher, Jr., as follows (August 2, 1916):

Q. As to one branch of your system, there was in existence an arbitration agreement with the Union? A. Yes. (p. 34)

and of Mr. Maher, Sr. (August 3, 1916):

Q. So that at the time of these conferences there was in existence an agreement on your part with this Union to arbitrate not only questions that were arbitrable, but even to arbitrate whether or not the questions were arbitrable; is not that a fact? A. That is a fact. (p. 155)

It is thus beyond dispute that the agreement to arbitrate was made, that it was applicable to the present controversy and that in securing the agreement the Public Service Commission for the Second District had intended to avert just such disturbances as the one we were called upon to investigate.

Nothing is so important and so vital to the preservation of enlightened and orderly means of disposing of industrial disputes than that compacts solemnly made shall be solemnly kept. This applies to the employers and to the men, *both*. In this instance, the men and the company, having agreed, were bound, both of them, when the controversy arose, to submit it to arbitration. We do not mean that either side was called upon to surrender fundamental rights. On the contrary, their fundamental rights were to be preserved and safeguarded. But the application of the rights of each side at any given time or to any given set of circumstances was clearly regarded by both parties as a matter for impartial examination and determination. It is the fact that on July 11th and at the preceding conferences no question was submitted except a question of increase in wages, a concededly arbitrable question. *At this time there was no question of Union recognition*, and the men asked that if they and the company failed to agree the question should be submitted to arbitration. When, however, Mr. Whitridge took the position of *refusing to arbitrate*, and left the country a few days later, with no one in his place authorized by the Directors to change his policy, but leaving directions that if a strike occurred the cars were to be run into the car barns until certain Westchester city ordinances were repealed, the men went on strike on the Yonkers and Westchester lines and extended the strike to the whole Third Avenue system. They then added to the wage issue two others: 1. That their legal right to organize should be freely accorded to them and not interfered with. 2. That the company should deal with committees of the Union in adjusting difficulties.

Q. And it is the fact also, is it not, Mr. Maher, that in dealing with the subject of wages it was Mr. Whitridge's desire that the whole scale should be treated as a scale for the entire Third Avenue system? A. It was. (p. 155)

Q. \* \* \* Your son testified very clearly yesterday, and I will call attention to the record if need be, that there was no question except the matter of wages; and you will recall, because you referred to the fact in the conference, and the minutes of July 11th show that, that when a question was raised as to whether the request came from the men in an official capacity as representatives of a union, that was modified and the letter which came to you was signed by the men as a committee. A. That is true.

Q. So that the question of recognizing the Union or dealing collectively with the Union did not come up at all? A. Yes, sir; that is true.

Q. And your son testified, and if I am not correct I wish you would correct me, that there was no issue at that time except the matter of the hourly rate of wages for the men. A. That was my understanding.

Q. Now, then, there was something to arbitrate, was there not? Was not that a subject for arbitration? A. Perhaps it was.

Q. You do not regard a matter of the wages for men as a nonarbitrable question, do you? A. Not at all.

Q. Then why did you take the attitude, or why did Mr. Whitridge take the attitude of refusing to arbitrate what you considered to be an arbitrable question? A. I cannot tell you why Mr. Whitridge took that attitude.

Q. There must be some reason for it. A. I am sure there must be, but I cannot tell you.

Q. At the present time you know of no reason that you can give that animated the attitude on the part of Mr. Whitridge of refusing to arbitrate an arbitrable question? A. I do not. (pp. 152-153)

Mr. W. B. Fitzgerald testified:

A. If Mr. Whitridge had agreed to arbitrate the question of wages there would have been no trouble or suspension of work in these properties. There would be none now. (p. 93)

Q. Was there any intention on the part of the Union to start a strike on the Bronx and Manhattan lines, regardless of the conditions in Westchester, at this time? A. There was no thought of that at all.

Q. No thought of that at all? A. No, sir. (p. 94)

The hearings before us resulted in narrowing down the Third Avenue controversy to these points: The company was fully prepared to recognize the legal and moral right of the men to organize and was ready, in broad terms, to pledge itself not to interfere with this right.

We did not understand that the company would in any way interfere with the selection of the committee, nor would they interfere with the men securing advice from officers of the Union, but we did think that probably the company would not wish to throw the weight of its endorsement to the organization, which it would do if it acquiesced in the men's request. The privilege to accord or withhold endorsement or sanction of the Union was, of course, for the company to exercise. We did believe, however, that the public should not be deprived of its transit facilities because of a controversy over such a matter, nor that the business of a great City should be suspended while the parties wrangled over this point. In our opinion if the men won their first point, that is, that it was the duty of the company to arbitrate (for which they had contended), and their second point—the recognition of their right to organize and join a Union, and obtained adequate pledges safeguarding them in this respect, we believed that they should not attempt further, by crippling the public utilities, to induce the company to give its endorsement to their organization. We were, and are still of the opinion that in this instance the rights of the public and of the State are paramount. We believed the company should be required to reduce to writing its pledge not to discharge any of the men for joining the Union, nor to interfere coercively with their so joining, and we were prepared to require that, in order to avoid further misunderstanding, the arbitration agreement of 1913 should be made effective. We were hopeful of securing the acceptance of these views by both the men and the company. On the Yonkers and Westchester divisions, though the men admitted that they long ago had "secured recognition of the Union," yet in the conferences and in the correspondence leading up to the present strike when Mr. Whitridge objected to the designation of their committees as Committees of their Local Union they promptly presented a modified letter with the designation omitted, thus showing breadth and wisdom in putting substance ahead of form. We believed, therefore, that we could reasonably hope to convince them that they could afford in this instance to show the same spirit and take the same stand. We were, moreover, clearly of the opinion that the arbitration agreement of 1913 binding the men as well as the company to submit such points of difference for arbitration would send this matter to arbitration and thus remove it as a stumbling block. We believed that this point was an arbitrable one, in that it involved solely the company's attitude toward giving its weight of sanction or endorsement to the Union and since the company had a reasonable basis for arguing that to give this sanction would be doing more than giving the men a fair and free field to organize, it was subject to discussion and reason.

If we secured a settlement on Monday with these lines in the Third Avenue situation—the "red car lines"—we were hopeful that it would furnish a *modus vivendi* for settling the New York Railways situation—the "green car line." The "green car line" strike broke Saturday morning.

On Saturday, August 5, in the afternoon, the Chairman of the Commission and Mr. Cohen had a conference at the Chairman's residence, at Purchase, New York, at which the foregoing considerations were debated and formulated; as a result, Mr. Cohen was authorized to present our views on Monday morning to Mr. Cook, Counsel for the Third Avenue system, and Mr. Fridiger, Counsel for the men, and he was authorized, further, to endeavor to secure their assent and promise of recommendation of approval of their clients. On Saturday evening the Mayor of the City of New York called upon the Chairman at his residence at Purchase, N. Y., and sought his coöperation in an effort to avert further extension of the strike, the strike on the New York Railways having been followed by that on the Queens Railways, Second Avenue and Staten Island lines. The Chairman pledged his coöperation and outlined to the Mayor the plans and program of the Commission. The Mayor approved of both. On Sunday morning the Mayor telephoned the Chairman that he had arranged for a conference at the Bar Association, this city, first with the representatives of the Union and then with the representatives of the New York Railways Company to secure, if possible, an immediate settlement of the strike along the lines outlined by the Chairman. The Chairman and Mr. Cohen came to the City, met the Mayor at the Bar Association on Sunday (August 6), Messrs. Mahon, Fitzgerald, Frayne and Fridiger attended, representing the Union, and there was laid before them the propositions above outlined. For the purpose of making it clear, the following five propositions were formulated by the Chairman and Mr. Cohen:

1. The men have the legal and moral right to organize.
2. The men have the legal and moral right to ask the Company's pledge that it will not interfere with the exercise of their right to organize, either by discharge or intimidation.
3. The men have the right, if they choose, to deal collectively with the Company through their own committees, who are employees of the Company.
4. If the Company will receive committees of men, elected by the men—whether or not they also are representatives of an organization—the question of receiving the committee as a committee of the Union, is one that should be waived by the men.
5. All questions of wages and working conditions are subjects for arbitration, and if arbitration occurs the men may appear by their own chosen spokesman.

After discussion, the representatives of the men agreed to accept these propositions, and Mr. Mahon formulated their proposal in the following language:

"To the Honorable John Purroy Mitchel,  
Mayor of the City of New York  
and  
The Honorable Oscar S. Straus,  
Chairman of the Public Service  
Commission for the First District.

"Sirs:

"We have carefully considered the suggestions that you have made to us, looking to a settlement of the strike on the New York Railway Company's lines,

and we herewith submit to you, in line with the suggestions that you have made the following propositions.

"If these propositions were put into the shape of an agreement and signed, we would be willing to immediately submit them to our people and recommend that they be accepted by them as a settlement of the present strike.

"1. The employees have a legal and moral right to organize, and the company pledges that it will not interfere with the employees in their exercising of these rights to organize, either by intimidation, coercion, discharge, or in any other way.

"2. The company will receive and treat with a committee of the employees upon any and all questions that may arise between them. This committee to select such spokesmen or advisers as they may choose to represent them, without any objection on the part of the company, and the company will in no way interfere with the selection of the committee of employees.

"3. That the question of wages and working conditions between the employees and the company shall be taken up by and through a committee of the employees with the officials of the company on a date to be agreed upon between them—such date not to be later than the 20th day of August, 1916.

"The committee and the company in conference shall attempt to reach a satisfactory settlement upon all questions of wages and working conditions, and upon such points as they may fail to reach an agreement they shall submit to a board of arbitrators—the board of arbitrators to be composed of three disinterested persons, one to be selected by the officials of the company, one to be selected by the committee representing the employees, and these two arbitrators to select the third.

"Both sides to be given full opportunity to present all evidence, and argument in connection with their points submitted to arbitration, and the award of the majority of the arbitrators, in writing, shall be final and binding.

"It is also agreed that all disputes that may arise between the company and the employees in the future, on which they cannot mutually agree, shall be submitted to arbitration as herein provided.

"4. If the above is agreed to and accepted, it is further agreed that the employees shall declare off the strike and return to work immediately, in the positions they occupied prior to the time of going on strike, without prejudice.

"This agreement to be underwritten by his Honor, Mayor Mitchel, and by the Honorable Oscar S. Straus, Chairman of the Public Service Commission for the first district.

"Dated N. Y., August 6th, 1916.

"W. D. MAHON  
WM. B. FITZGERALD  
HUGH FRAYNE  
LOUIS FRIDIGER, Atty."

In the afternoon, Mr. Shonts and Counsel for the Company, James L. Quackenbush, Esq., attended. The same propositions were laid before them, together with the signed proposals of the men. In principle, the proposals were accepted, with some modifications of detail. The modifications appear in the revised proposal, which was then signed by Mr. Shonts, and which is as follows:

"To the Honorable John Purroy Mitchel,  
Mayor of the City of New York  
and  
The Honorable Oscar S. Straus,  
Chairman of the Public Service  
Commission for the First District.

"Sirs:

"I have carefully considered the suggestions that you have made to me looking to a settlement of the strike on the New York Railway Company's lines and I herewith submit to you, in line with the suggestions that you have made the following propositions, which I will recommend to my board of directors

for ratification. If ratified by my board, I agree that they constitute an undertaking and agreement on the part of my company to settle the strike upon the basis therein set forth:

"1. The employees have the legal and moral right to organize, and the company pledges that they will not interfere with the employees in their exercising of these rights to organize, either by intimidation, coercion or discharge, nor shall employees undertake to interfere with other employees in their exercising of their rights to decline to organize, either by intimidation or coercion.

"2. The company will receive and treat with a committee of the employees upon any and all questions that may arise between them. This committee to select such spokesmen or advisers as they may choose to represent them, without any objection on the part of the company, and the company will in no way interfere with the selection of the committee of employees, it being understood that if the committee shall select to represent it the officers or other representatives of any particular organization, their appearance on behalf of the committee shall not be deemed to be a recognition on the part of the company of the organizations of which they are the officers or representatives.

"3. That the question of wages and working conditions between the employees and the company shall be taken up by and through a committee of the employees with the officials of the company on a date to be agreed upon between them—such date not to be later than the 20th day of August, 1916.

"The committee and the company in conference shall attempt to reach a satisfactory settlement upon all questions of wages and working conditions, and upon such points as they may fail to reach an agreement they shall submit to a board of arbitrators—the board of arbitrators to be composed of three disinterested persons, one to be selected by the officials of the company, one to be selected by the committee representing the employees, and these two arbitrators to select a third.

"Both sides to be given full opportunity to present all evidence and argument in connection with their points submitted to arbitration, and the award of the majority of the arbitrators, in writing, shall be final and binding.

"It is also agreed that all disputes that may arise between the company and the employees in the future, on which they can not mutually agree, shall be submitted to arbitration as herein provided.

"4. In the interest of public safety and public service, the company wants it clearly understood that the direction and control of employees in all matters looking to efficiency in the service remain with the company and is not to be the subject of conference or arbitration, but if a dispute should arise as to whether a particular case falls within the above class, that question shall be subject to conference and arbitration as above provided for.

"5. If the above is agreed to and accepted, it is further agreed that the employees shall declare off the strike and return to work immediately, in the positions they occupied prior to the time of going on strike, without prejudice.

"This agreement to be underwritten by his Honor, Mayor Mitchel, and by the Honorable Oscar S. Straus, Chairman of the Public Service Commission for the First District.

"Aug. 6th, 1916.

"T. P. SHONTS."

The representatives of the men were then again sent for, and the changes were submitted to them, and, after discussion, accepted by them, as appears from the following:

"August 6, 1916.

"To the Honorable John Parroy Mitchel,  
Mayor of the City of New York  
and

The Honorable Oscar S. Straus,  
Chairman of the Public Service  
Commission for the First District.

"Sirs:

"We have read the communication addressed to you by Mr. Theodore P. Shonts, as president of the New York Railways Company, setting forth the proposals of settlement of the existing strike, and agreeing to submit such proposals to his board of

directors for ratification, and further agreeing that if ratified such proposals shall constitute an undertaking and agreement on the part of the company for the settlement of the strike.

"The terms and conditions of settlement set forth in the letter of Mr. Shonts embody certain changes in the terms and conditions agreed to by us in our letter addressed to you this morning. At your request, we hereby accept these changes and agree to recommend them to our people for acceptance.

W. D. MAHON  
WM. B. FITZGERALD  
HUGH FRAYNE  
LOUIS FRIDIGER, Atty."

On Sunday Mr. Cohen was authorized to present to Mr. Cook, on behalf of the Third Avenue Company, the proposals which had been agreed to by the men and by Mr. Shonts. On Monday morning Mr. Cohen met Mr. Cook at the Bar Association and submitted to him the plan. The latter indicated that it would meet with the approval of his company.

On Monday morning the men at their halls ratified the arrangement as to the Railway lines. The directors of the Third Avenue Railway met and authorized Mr. Maher to consummate the settlement. The Board of Directors of the New York City Railways Company met Monday morning, and sat until 9:30 Monday evening. During the day they appointed a Committee to wait upon the Mayor and the Chairman, and a conference was held at 2:30 on Monday with these gentlemen at the Mayor's office, necessitating the adjournment of the Third Avenue hearing of the Commission. During the day the Mayor and the Chairman sought to persuade the Directors of the Company to ratify the act of their President. In order to facilitate this result, the Mayor secured from Mr. Mahon the following letter:

"August 7, 1916

"To the Honorable John Purroy Mitchel,  
Mayor of the City of New York  
and  
The Honorable Oscar S. Straus,  
Chairman of the Public Service  
Commission for the First District.

"Sirs:

"I have considered the two questions of interpretation of the terms of settlement contained in the letter of Theodore P. Shonts as President of the New York Railways Company dated August 6 which you have presented to me, and on behalf of the men on strike I agree as follows:

"The language in paragraph 1 as follows:

"Nor shall employees undertake to interfere with other employees in their exercising of their rights to decline to organize, either by intimidation or coercion."

shall be held to mean in addition that this applies as well to members of the Association whether they be employees of the New York Railways Company or not.

"The third paragraph on Page 3 prescribing the method of selecting a board of arbitrators shall be amplified by the following provision:

"In case the arbitrator selected by the officials of the company and the arbitrator selected by the committee representing the employees shall fail within ten days to select the third arbitrator, then such third arbitrator shall be selected by Honorable Oscar S. Straus.

"Very truly yours,

"W. D. MAHON."

At 9:30 Monday evening, the Mayor and the Chairman received word that the Directors of the New York City Railways Company had ratified and approved the action of their President. The adjourned session of this Commission in the Third Avenue matter was then held at the rooms of the Commission. Mr. Cohen reported officially what had taken place. Mr. Cook announced that Mr. Maher had been designated with power to act. Mr. Maher and Mr. Mahon and his associates promptly accepted. Thus the proposal accepted on Sunday by the President of the New York City Railways Company was made the basis of the settlement of the Third Avenue difficulty.

On Tuesday morning, the 8th, the Chairman and Commissioner Whitney, Mr. Cohen and the Mayor met at the Mayor's office, the Receiver and representatives of the Second Avenue Railroad Company, representatives of the Queens County road, and of the Staten Island Companies and the representatives of the men. All of the representatives of the Companies announced their willingness to settle their strikes upon the same terms as had been negotiated with the New York Railways Company and the Third Avenue Railroad Company. This settlement was consummated by acceptance and ratification of the men that afternoon. All documents recording these agreements have been placed in the record in this case.

Because of its supervision of the railroad facilities of the City, it was the special duty of this Commission to safeguard the lives of the citizens on its railroad lines and to ascertain whether the franchises of the Companies were being exercised. Without knowledge of the facts the responsibilities for the situation could not be fixed. The Commission not only had power, but it was its duty to examine witnesses and ascertain the facts promptly. It was, in fact, the sole body having the powers of investigation. The Commission believes that the two days of investigation into the Third Avenue situation clarified the facts and fixed the responsibility.

While the settlement of the strike is important, the Commission believes that the lessons to be derived therefrom are more important and should be plainly set forth as a basis for further study and legislation. At this time it is not practicable to formulate definite measures to be introduced in the legislature, but, in order that there may be the widest possible criticism and opportunity for discussion, the Commission now presents for consideration certain deductions which it makes and certain questions which its experience suggests, as follows:

FIRST: It is evident that the responsibility for maintaining service and adequate transit conditions requires that the Commission shall be clothed with the fullest powers. The public now believes that the Commission has such powers. This is not true, however, for the statutes contain careful limitations which have been further restricted by judicial decisions. If the Commission is to be an administrative body to regulate and control public services, its powers should be ample and undoubted.

In applying this concretely to industrial situations it is obvious that even if public opinion is the only power to control a given situation, such public opinion

should be brought promptly to bear upon the basis of authentic knowledge of the facts and the just application of reason. If law and order are to be maintained in the community, correctly informed public opinion must be given an opportunity to assert its power.

SECOND: We are of opinion further, that if it had been known that the facts in the Yonkers and Westchester matter were subject to public investigation and inquiry by the Public Service Commission, the men would have been satisfied with the enforcement of the agreement to arbitrate and would have been satisfied with an order from the Commission directing the president of the railroad to proceed with the arbitration. We, therefore, suggest that when agreements to arbitrate are made between public utility companies and their employees, they should be recorded with the Public Service Commission, and if ratified and approved, made a part of the binding obligations of the company in the exercise of its franchise. This would permit the making of voluntary agreements between employees of the companies and the companies, with the knowledge on the part of both that there was power in the Commission to enforce the agreement. We are of opinion that the Public Service Commissions Law should be amended to compel parties to such agreements to register them with the Commission, and in the event of a breach to permit either party to apply to the Commission for relief, and that the Commission should be vested with adequate power to grant relief in such cases.

THIRD: The recent experience of the Commission indicates clearly, as did the experiences in 1877 and in 1902, in the case of the Boston and Main Railroad strike and the anthracite coal strike, that *investigation and publicity* are more than half the cure for industrial differences.

FOURTH: The rapid transit lines of the City are now or are about to be operated under the provisions of contracts entered into between the Commission, as representative of the City, and the companies, whereby the City is in a position of ownership of most of the lines and to a certain extent in partnership in the operation, thus creating a situation unlike any existing elsewhere, wherein there is a direct municipal, as well as public, interest in the continuous operation of the rapid transit systems of the City. This raises the question which is presented for consideration and public discussion, as to whether the employees on such lines occupy a position towards the public and the municipality different from the position occupied by the employees of other public service corporations.

FIFTH: There is no doubt that men have the right to refrain from working and any rule that requires a man to work against his will is in the nature of slavery. On the other hand, there are positions of public service that require the performance of instant duty; for example, the policeman or the fireman may not throw up his job while on duty, though he may resign his position.

It may very well be considered at this time whether or not the principle should be extended to the extent of saying that it is against the public interest that men employed on railroad or other public utilities may, without notice, exercise their right to quit their jobs in a group, thus crippling if not totally arresting the operations of public utilities, to the great damage of the public. We are not undertaking now to suggest what remedy, if any, may be just and practicable, but it is already the law that the matter of the operation of public utilities is a matter of State regulation. Is the quitting of the service a matter for State regulation?

These questions cannot be settled without the broadest public discussion. They should be considered from every angle, with due consideration for the rights of the employees and the public.

We believe that the Commission should present these questions for consideration so that when it resumes its hearings for the purpose of framing legislation, it will have the benefit of receiving information, suggestions and criticisms to aid in arriving at a final conclusion.

### A SECOND STRIKE

Within a little more than a week after the conclusion of the first strike it became apparent to those in close touch with the situation that new difficulties were brewing which threatened not only again to involve the surface lines,— particularly those of the New York Railways Company,— but all the elevated and subway lines of the Interborough Company as well. There was organized among the employees of the Interborough Rapid Transit Company a brotherhood, which the company stated was formed for the purpose of carrying out the theory and terms of the settlement entered into in connection with the surface car strike. Certain of its employees at once protested against this activity on the ground that it was an attempt to defeat by a roundabout means the recognition of the right to organize accorded them in the terms of the settlement of the August strike.

In addition, employees of the New York Railways Company complained to T. P. Shonts, president of that company, that the conclusion of the first strike had been followed by indiscriminate discharging of men who had participated in the suspension of work. A conference was requested between the officials of the company and the men and a demand was made that the company carry out the terms of the agreement as understood by the men.

A copy of this letter was forwarded to the Commission by President Shonts, who stated that no employe had been discharged or interfered with in any way in reference to his union affiliations.

The charge was made that the employes discharged had violated the rules of the company. As a reason for the organization of the Brotherhood, to which the men objected, President Shonts stated that it was to provide a method whereby every employe, union or non-union, might have representation in dealing with the management. He stated that what the company desired was that those of the employes who did not desire to join a union might have complete freedom to refuse to join.

Another feature to which certain employes of the company objected was a system of contracts or working agreements with employes setting forth the scale of wages and binding employes contractually until August 31, 1918.

Eventually the situation became such, despite conferences and efforts to prevent the recurrence of labor difficulties, that on September 6 the dissatisfied ones among the employes of the Interborough Rapid Transit Company, both on subway and elevated divisions, went on strike, and on the same day the employes of the New York Railways Company struck for a second time.

On September 9 the strike was resumed on the Third Avenue system, and was followed on the Second Avenue and Bronx lines the next day. The employes of the New York and Queens County Railway Company also went on strike a second time beginning September 19. Employes of the Staten Island lines did not, however, strike a second time. None of the Brooklyn lines was affected by these strikes.

Elevated and subway lines were very little affected by the strike, and after the first day or two service became practically normal upon them except in so far as it was affected by additional traffic caused by the practical cessation for a time of operation upon the street surface railroads. Service upon these surface lines has slowly increased since the strike but counts of traffic made toward the end of the year on some of the worst affected lines indicated that service had not yet reached the normal.

Technically, none of the strikes had been called off at the end of the year. Immediately after the strike on the Interborough lines was called the Commission resumed its hearings, inviting

Mayor Mitchel, as co-underwriter with Chairman Straus of the settlement agreement of August 6 terminating the first strike, to sit with it. Various witnesses were examined including President Shonts and other officers of the Interborough Rapid Transit Company and officers and members of the Amalgamated Association of Street Railway Employees.

At the hearing on September 12, Chairman Straus presented the following statement on behalf of the Commission and of the Mayor, setting forth their joint views and recommendations relative to the suspension of work on the lines of the New York Railways Company and the Interborough Rapid Transit Company:

STATE OF NEW YORK:

September 12, 1916

IN THE MATTER  
OF THE

Investigation by the Public Service Commission for the First District under Sections 45 and 48 of the Public Service Commissions Law into the general condition of each and every common carrier within the First District, and as to the manner of operation and the adequacy and safety of service of such common carrier

Case 2126

*By the Mayor of The City of New York and Public Service Commission for the First District:*

The agreement of August 6 was made with deliberation and care. It constitutes a statement of rights and principles. At the earnest solicitation of both sides, the Mayor of the City and the Chairman of the Commission underwrote that agreement, which meant that they would use their best efforts and their official power to secure full compliance. To safeguard both sides—but more particularly the interests of the public—a complete method of arbitration was provided, in place of the strike and the lockout. For this purpose the agreement definitely provided that:

"All disputes that may arise between the company and the employees in the future on which they cannot mutually agree shall be submitted to arbitration as herein provided."

The various witnesses who appeared before us testified that they believe in the principle of arbitration and wish to see it sustained. Indeed, much of the difficulty that has arisen is due to charges and countercharges that the principle of arbitration has been violated. All of the witnesses concur in the opinion that the agreement of August 6 was a fair, reasonable and workable agreement provided it was observed in letter and in spirit.

THE INTERBOROUGH AGREEMENT OF AUGUST 30TH

On August 10th, when the Commission filed its memorandum, there was no agreement covering the subways and the elevated. On the 30th of August, it appears from the testimony before us, the Interborough Rapid

Transit Company received a committee of its men, members of the Amalgamated Association, attended by the same advisers and spokesmen who appeared before us in the matter of the other railways. After discussion, Mr. Hedley informed Mr. Fitzgerald and his associates that as the same men governed the policies of the Interborough as governed the policies of the Railways Company, they might proceed upon the assumption that the principles and policies embodied in the Railways agreement of August 6th would be regarded as controlling in the case of the Interborough. It was definitely agreed to by both that the principle of freedom to organize, the principle of freedom from intimidation or coercion, and the principle of arbitration should govern. Although this agreement was not reduced to writing and signed by the parties, it was approved by President Shonts and was relied upon by both sides in their subsequent negotiations.

Prior to and during the hearings before us, the officers of the Interborough sought to persuade their men not to join the Amalgamated Union. After the agreement of August 6 they advised their men to form an organization of their own, as suggested by the President and Vice-President of the company. The company stated that these suggestions were favorably acted upon and that nearly ten thousand out of some eleven thousand voted to carry out this policy and that they selected committees to speak for them and elected officers. The company contends that, as a result of the conference between the committees thus selected and their officers, working standards of wages and other matters were agreed upon; that this arrangement was submitted individually to the men and that approximately ten thousand of them signed separately an identical memorandum or agreement embodying these terms. The company officials claim that this was done freely and fairly without violation of any of the principles of the agreement of August 6 and that the men were permitted to and did exercise their constitutional rights. On the other hand, it is claimed by the officials of the Amalgamated Association, that such a form of contract was in violation of the agreements of August 6th and 30th, and that these contracts thus signed by the men were secured through fraud, misrepresentation, coercion and intimidation. It appears that on the 30th of August, the officials of the Amalgamated first heard of the distribution of these contracts when the working standards were submitted to them as a basis for discussion. As soon as they had their counsel's opinion of the effect of this agreement upon membership in the union, they suggested that in addition to the four clauses there should be added the following:

(Fifth) "Nothing in this agreement is to be held to preclude any employee from joining any organization or any union, and will not preclude him from participating in any movement towards the betterment of his working conditions or the increase of his wages, and in the event that he sees fit to join such an organization with such objects in mind, it will not be considered a breach of this agreement."

It appears from the minutes of the conference and the direct testimony before us that if such a course had been accepted, difficulty might not have arisen at this time. Mr. Quackenbush, counsel for the company, testified that it was his expectation that the Amalgamated representatives would continue to endeavor to raise the standards of wages provided in the "working agreement"; that, in all probability, (in his opinion) there would be an increase, and that in consequence the standards would be advanced.

It is regrettable that at this point the parties apparently became distrustful of each other. From the testimony it appears that the men believed that an attempt was being made to deprive them of the rights which had been guaranteed to them by the agreement of August 6th. On the other hand, the company officials apparently believed that the officials of the union were seeking to prevent the men from exercising their right to prefer the Brotherhood to the Amalgamated.

It appears that by the 6th of September the men were in the frame of mind of believing that the company was seeking (as their counsel puts it) to "exterminate their Union," and the company officials were of opinion that the men were seeking to "paralyze" the entire transit system of New York as a means of coercing the withdrawal of the so-called "working agreement." Whatever the frame of mind of the parties, the facts are now plain. Just as the company believed that it had the right to discharge men who had been convicted of crime and to do so within the terms of the agreement made on August 6, so it felt it had the right to circulate these working agreements and to secure the men's signatures. In the first instance the Mayor of New York determined that the men should be reinstated, in the second instance the company may have been right or may have been wrong, dependent upon circumstances which were subject to proof and subject to investigation. The spokesmen for both parties now testify before us that this latter question could have been disposed of by processes provided for in the agreement of August 6th. Nevertheless, on the 1st of September at a meeting of the Interborough men, resolutions were adopted demanding the return of the "working agreements" and authorizing their officers to call a strike if necessary.

It is conceded by the spokesmen for the men that at this time no effort was made to utilize the processes or machinery of arbitration provided in the agreement of August 30 and on the 1st of September a communication was sent to the Chairman of the Public Service Commission by counsel for the men enclosing a copy of a letter to the Mayor.

Attention is directed to the fact that in this communication it is expressly stated that no complaint is made "*at this time*" to the Commission or to the Mayor or to the Chairman of the Commission. Nor does there appear in the resolutions adopted by the men anything indicative on their part of readiness to follow the methods provided for in the agreement for arbitration. Yet the claim is made before us by the spokesman for the union that on the 30th of August there was an obligation on the part of the Interborough to arbitrate all differences that might arise, even though they involved questions of personal honor.

It is our opinion, after listening to both sides and carefully reviewing the testimony, that whatever may be the condition of the mind of the officers of the union or the officers of the company there is a clear duty to the public which the underwriters of the agreement of August 6th and this Commission have the right to assert. This controversy does not involve the issue of trade unionism in this City.

To-day, as on the 6th of August, the clear, legal and moral principles governing the situation remain the same. Each side believes that it is standing for its rights, but the rights of both sides are subordinate to the

rights of the public, and it remains as true to-day as on the 6th of August that the public's right to have controversy upon its railroads settled peaceably and without resort to a war of any kind is a right superior to the rights of either the men or the company.

We said in our memorandum of August 10th:

"The right of men freely to organize is a legal right, no longer subject to question. The right of men freely to select spokesmen or advisers is a corollary of this right. The right to deal or decline to deal collectively with an organization is likewise a legal right. So, too, the right to employ or to refuse to employ members of a certain organization is a legal right, justified morally in its exercise, according to the circumstances of each case. But the right of the State to have its public utilities operated safely, efficiently and continuously is also a legal right. Which of these rights is paramount? The rights of the people, or the rights of workers or employers? Whatever the application of these rights may be in private ventures, the right and the duty of the State in respect to its public utilities are clearly paramount. It is true that none of these rights—of the State, the worker or the employer—are arbitrable. But the adjustment of these rights so that each may be respected and properly balanced involved important considerations. While all of these parties have clear rights, the manner of exercising them is of the highest importance. The methods commonly accepted as moral are the methods of argument and persuasion, and the methods condemned are those of coercion or oppression. Neither should the men coerce acceptance of their views, nor the company coerce acceptance of its views \* \* \*."

We also said in that memorandum:

"Nothing is so important and so vital to the preservation of enlightened and orderly means of disposing of industrial disputes than that compacts solemnly made shall be solemnly kept. This applies to the employers and to the men, both."

We believe that the agreement has not been destroyed by the acts of the parties. Though it has been violated, the moral obligation to maintain it still continues. It was deliberately made, and guaranteed by the Mayor of the City of New York and the Chairman of this Commission. The public was also a party to this agreement. Whatever the other two parties may do, they cannot deprive the public—the third party—of its rights under the agreement. Both parties asked for and received the sanction and guarantee of the City of New York and the Public Service Commission that each would perform its duty.

Of course one side or the other, or both, might *violate* the agreement but they could not *destroy* their obligations under it, for, after all, it merely stated in terms what both had admitted and agreed were basic rights. The agreement contains nothing about wages or hours or working conditions; it was not an ordinary contract; it was not a trade union agreement. It was an agreement upon principles. In addition, it provided for a method of arbitration of grievances and disputes. It was the clear intention of all parties concerned, including the Mayor and the Chairman of the Commission, that neither side should resort to the strike or lockout until there had been recourse to arbitration. This intention was based upon the thought that war in industry is the last, not the first, method to redress wrongs.

There should be effective legislation to meet such situations as these, but in the absence of such legislation there is no reason why the moral pressure of the whole community should not be exerted to compel both parties to

observe the agreement which they state was in its essence fair and reasonable and which they regarded as "sacred". We, therefore, recommend:

(1) That the question whether the distribution of the individual contracts constituted a violation of the agreements be referred to arbitration in the manner provided in the agreement.

(2) That the charge that the company sought to secure acceptance of the individual contracts by fraud, misrepresentation, coercion or intimidation be referred in the same way.

(3) That the parties proceed with the conferences where they left off and that, in order that friction may be avoided, they agree upon some impartial person to preside, or, if they cannot agree, that they permit the Mayor and the Chairman of the Commission to name such impartial person to have no authority to decide but merely to preserve the parties from further misunderstandings and disagreements, and further that such conferences be held in public.

(4) That the strike should be declared off immediately.

Commissioners Hayward and Hodge do not concur in the first recommendation.

Other hearings, Mayor Mitchel joining with the Commission, were held and on September 15 Chairman Straus presented the following statement in which the Mayor and the Commission set forth their views and recommendations relative to the suspension of work on the lines of the Third Avenue Railway Company:

STATE OF NEW YORK:

September 15, 1916.

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IN THE MATTER  
OF THE

Investigation by the Public Service Commission for the First District under Sections 45 and 48 of the Public Service Commissions Law into the general condition of each and every common carrier within the First District, and as to the manner of operation and the adequacy and safety of service of such common carrier

Case No. 2126

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*By the Mayor of the City of New York and Public Service Commission for the First District:*

The situation created by the signing of the compact of August 7, covering the Third Avenue Railroad system, is wholly separate and distinct from the Interborough and New York Railways situation. The conferences between the committees of the Third Avenue men and Mr. Maher and Mr. Whitridge show clearly that the parties were able to agree upon various points in the proposed "working agreement", and also agreed to arbitrate certain differences. Both sides sought to avoid arbitration, if it could be done, but failing to agree they followed the procedure outlined in the compact of August 7th. On September 7th, Mr. Fitzgerald testified that these conferences were proceeding satisfactorily and in good spirit. There is no evidence of any conduct on the part of the company indicative of bad faith or of intention to violate the compact of August 7th, nor up to September 7th do

we find any evidence of the intention to violate on the part of the men. We do find evidence of suspicion on the part of the men dating from Mr. Whitridge's return, but this could not justify a clear violation of the contract of August 7th. The men went on strike on September 9th in spite of the fact that the Mayor and Chairman Straus told them in conference earlier that evening that such an action would constitute a breach of their contract. They took this action without justification, and in violation of their compact.

The strike should be called off at once and the agreement of August 7th should be lived up to in letter and spirit.

This experience clearly demonstrated the lack of power in the Public Service Commission adequately to serve the public in an emergency of such a nature. The Commission believes that it can be an effective and powerful agency for the State in settling labor disturbances upon public utilities under its jurisdiction if the Legislature will strengthen the Public Service Commissions Law so as to bring such matters within its purview. Accordingly, the Commission will present to the Legislature drafts of bills for such amendments as, in its judgment, seem necessary.

#### FORMAL CASES AFFECTING TRANSPORTATION COMPANIES

*Case No. 1858 — Long Island Railroad Company — Footwalk on Trestle across Jamaica Bay.*— On January 12, 1915, the Commission adopted an order directing The Long Island Railroad Company to construct a footwalk over certain parts of the trestle on the Rockaway Beach division of the railroad across Jamaica bay. The order was adopted following hearings before the Commission at which various witnesses testified as to the danger to passengers who might be obliged to walk across the trestle in case an accident occurred or a train was stalled upon it for a long period.

Certain stretches of footwalk were constructed during the year 1915 and were pronounced satisfactory by the Commission. On June 5, 1916, the Ridgewood Board of Trade wrote the Commission urging the extension of the footwalk along the trestle. The matter was referred to Commissioner Henry W. Hodge who, on September 22, submitted to the Commission an opinion, adopted on September 28, which stated that he had examined the trestle and found that under the Commission's order the railroad company had laid a plank footwalk for about one-half mile at each end

of the trestle. He added that the railroad would add to this footwalk from time to time until a continuous walk was laid from one shore of the bay to the other.

Commissioner Hodge expressed the opinion that in case a train was stalled on the trestle passengers could walk the ties with safety, and he did not, therefore, believe the immediate completion of the footwalk urgently necessary. He stated, however, that in his opinion it would be wise to gradually extend the footwalk, and reported as to conferences with the railroad company, attaching to his opinion a letter of the company stating that during the Fall of 1916 and early Spring of 1917 the company proposed to add an additional three-fourths of a mile of footwalk; three-eighths of a mile to be placed at each end and adjoining the portion now in place. The Commission concurred in his recommendation that this suggestion be accepted and that the case be kept open for such further additions as might appear to be desirable from time to time.

*Case No. 1964 — Long Island Railroad Company — Lighting of Wooden Cars with Oil Lamps.*—On statement of the Long Island Railroad that it contemplated retiring from service a number of the old wooden cars in use on the Rockaway Beach division, the Commission on June 29 discontinued a proceeding begun in 1915 to investigate the illumination provided for in these cars, complaint having been made that the lighting was entirely inadequate. At the hearings held in 1915 the company stated its willingness to paint white the head linings of the several wooden cars in use and to take steps to improve the lighting.

During the Spring of 1916, prior to the Summer beach traffic, the Commission made inspections of the old wooden cars, and the Electrical Engineer of the Commission stated that the ceilings of such of the wooden coaches as remained in service had been painted white and the illumination had been improved. The Commission thereupon issued a discontinuance order.

*Case No. 2007 — Long Island Railroad Company — Hours of Labor of Gatemen, Flagmen, Guards, etc., at Highway Crossings.*—Following an investigation which was made during the year 1915 in which several hearings were held, the Commission on January 6 unanimously approved an opinion by Commissioner

Cram and adopted an order directing that The Long Island Railroad Company increase its police supervision over the men employed by it as grade crossing flagmen or gatemen by the employment of additional roundsmen or policemen. The order also provided that the company should submit to the Commission for its approval within fifteen days after service of the order a statement showing the manner in which and the time within which the special supervision would be increased.

Commissioner Cram in his opinion pointed out that at the hearing it was shown that the great evil to be guarded against for the safety of the traveling public was the flagman who sleeps during the late hours of the night and the early hours of the morning. He could not find, however, conclusive evidence that the number of hours of employment was directly connected with the cause of the frequent sleeping of flagmen. He accepted the testimony of an operating official of the railroad that the only means whereby flagmen could be prevented from going to sleep was by policing the crossings by roundsmen. He recommended, therefore, that an order be issued directing the company to increase its supervision over the flagmen, especially during late night and early morning hours.

He also took up the question of the hours of labor and the pay of crossing flagmen, recommending that the hours of labor be reduced from twelve to eight in the interest of good service, and that the minimum wage of \$1.50 per day be increased to at least \$2.00. The Commission, however, in adopting the order did not pass upon the question of wages or hours of labor, but directed the company to employ additional roundsmen and submit to the Commission the plan it might adopt for increased supervision.

The company replied that it would increase the number of men employed to supervise grade crossing watchmen within the First District from six to eight — an increase of 30 per cent. The Commission requested definite information as to the hours at which the roundsmen would make inspections of the more than three hundred crossings of the Long Island Railroad. The company replied that it would be impossible to state at what hours such inspections would be made and intimated that it was essential to the quality of the inspections that they should be made at varying hours. The Commission from time to time during the

year has had inspections made of the conditions at the grade crossings of the Long Island Railroad and reports made by its transit inspectors have been referred for consideration.

*Case No. 2014—New York Central Railroad Company—Improvements in Station at 125th Street.*—As stated in the last Annual Report, the Commission at the end of the year 1915 was conducting an investigation with reference to the construction of a new station on the Harlem division of the New York Central Railroad at 125th street and Park avenue. In September, 1915, the Commission received from the Harlem Board of Commerce and other organizations in that vicinity a complaint as to the inadequacy of the station. The Commission was requested to direct the company to show cause why a new station should not be erected. A copy of the complaint was filed with the company which asserted that the existing station and facilities were adequate.

Hearings were held and during the proceedings representatives of the railroad company stated that engineers of the company were in consultation with several of the complainant organizations and that plans were being worked out for improvements at the station. On November 30, 1916, a hearing was held after which the hearings were adjourned subject to the call of the Commission. On January 20 of this year the Commission unanimously adopted an order directing the railroad company to construct a new shelter on the northbound platform of the 125th Street station, to provide an enclosed shelter upon each platform, to repaint and provide a new tiled floor for the waiting room and submit the plans to the Commission.

The Commission on April 13, 1916, approved the plans, and the company, with the exception as to the time for completing the work, accepted the order. Later, on account of the difficulty in getting materials, the company asked for extensions of time in order to complete the station, which were granted. During November the Commission was advised that the improvements directed had been installed and were in use.

*Case No. 2058—New York Railways Company—Horse Cars on Madison Street and Avenue C Lines.*—Following correspondence between the Commission and Jacob S. Elsinger, Secretary

of the Guild Civic Union, as to the operation of horse cars on the Madison Street and Avenue C lines of the New York Railways Company, the Commission on January 20 directed a hearing for February 7 at which consideration was given to the question of changing the motive power on those lines. Several hearings were held, and on May 15, 1916, the Commission adopted an order directing the New York Railways Company by November 15 to change the motive power from horses, and to contract immediately for the purchase of not less than 70 new cars for use on these lines.

It was further ordered that the cars be placed in service by December 1, 1916, and that when all of the new cars had been placed in service the last of the horse cars be retired. The order was accepted on May 19 by the New York Railways Company and it was announced that storage battery cars would be the new type of equipment provided.

The contract was let by the New York Railways Company to the Southern Car Company. Had the New York Railways Company found itself able to carry out the provisions of the order, all of the horse cars would have been removed from New York City streets by December 1. However, on October 23 the company notified the Commission that the car company had been unable to complete the order, that it was difficult to make car deliveries and that it would be impossible to ship the first sample car to New York until sometime in November, several months later than the date originally contemplated.

The New York Railways Company stated that it would be physically impossible to comply with the terms of the order and requested an extension of time to April 1, 1917. The Commission, after consideration of the matter, adopted an order extending the time to March 15, 1917, and granting an extension of time to April 1, 1917, for the placing in service of the 70 cars ordered by the New York Railways Company.

*Case No. 2051 — The New York, New Haven & Hartford Railroad Company — Lighting Facilities on Multiple Unit Cars Running between New York and Larchmont.* — In January of 1915, following some previous correspondence, the Commission received a complaint from Charles K. Blatchly, Superintendent of the

Joint Application Bureau, protesting against alleged insufficient lighting furnished on the trains of the New York, New Haven & Hartford Railroad between New York City and Larchmont. Mr. Blatchly's complaint was to the effect that apparently storage batteries supplying current to the lights in the cars became so depleted at times that the lights were faint. His complaint was taken up by the Commission and notice of it given to the railroad company. Investigation by the Commission showed that low voltage of batteries was the apparent cause of the poor lighting.

On April 26, A. R. Whaley, Vice-President of the railroad company, notified the Commission that the company proposed to take prompt steps toward effecting the necessary improvement in the lighting of the cars involved in the complaint. The company stated that considerable time would be required to make the changes. Further complaint followed from Mr. Blatchly who stated that the lighting facilities were still insufficient. Notice was also received that Mr. Blatchly had made a complaint to the Public Service Commission for the Second District.

Joint tests were made by the Public Service Commission for the First District and the railroad company, but the work of installing the necessary changes in equipment went forward so slowly that on January 6, 1916, the Commission unanimously adopted an order directing a joint hearing before the Commission for the First District and the Commission for the Second District for consideration of the matter contained in Mr. Blatchly's complaint, with a view to issuing an order which would cover the lighting of the trains in question within both districts.

At the hearing, representatives of The City of New York appeared, together with representatives of the railroad company, Mayor Edward W. Fiske of Mount Vernon, and representatives of civic associations of Larchmont, Mamaroneck and New Rochelle. The railroad company admitted in response to questions by Commissioner Hayward that only two cars had been altered as a result of a year's negotiations to improve the lighting service, and asked for a long adjournment which, however, was denied. It stated that it had not completed the changes because the work of making tests had not progressed far enough to warrant all the alterations desired being made.

It was stated that the company proposed to alter 65 cars so that part of the lights in each car would be taken off the third-rail and connected with batteries. On January 20, 1916, following the hearing, an order was unanimously adopted directing the railroad company to rewire and put in operation by May 1, 1916, 50 of the 65 multiple unit cars operated by the company between Larchmont and New York City. The remaining 15 cars were to be rewired and put in operation by June 1. It was further directed that when these cars were being operated over third rail the current for lighting the cars should be taken from the third rail.

The order was informally accepted by the company on February 8, 1916, and later formally accepted following the passage of a similar order by the Commission for the Second District. On May 10 the Commission's Equipment Bureau reported that the company had complied with the order in respect of the first 50 cars and later reports were made to the Commission that the company had complied with the order.

Afterward, the Commission took up with the company, upon further complaint of Mr. Blatchly, the question of the wattage of the lamps employed, and certain suggestions were made for changes, following which the Electrical Engineer of the Commission reported that the new lighting arrangement seemed to be entirely satisfactory.

*Case No. 2114 — Third Avenue Railway Company — Condition of Tracks on Amsterdam Avenue between Manhattan Street and Fort George.*— A report was received by the Commission in June from its Electrical Engineer, stating that the tracks of the Third Avenue Railway system on Amsterdam avenue between Manhattan street and the Fort George terminal were in a deplorable condition, the rails being broken to such an extent that repairs were impossible, and other defects being numerous.

Hearings were ordered by the Commission and held on July 10, 11 and 26. At the first hearing Edward A. Maher, Jr., stated for the company that its plans called for the rerailing of the tracks on Amsterdam avenue from Manhattan street to Fort George — one-third of the work to be done in 1916, one-third in 1917, and one-third in 1918.

He expressed the hope that the company might do even better than this estimate and complete more than two-thirds of the work in 1916 and 1917 if it were able to obtain the necessary labor. A report was placed in evidence from Clifton W. Wilder, Electrical Engineer of the Commission, enumerating the various particulars in which the tracks were defective.

At the second hearing Mr. Maher agreed to repair all defective rail joints between the date of the hearing and January 1, 1917, and stated further that it was the company's purpose to renovate the tracks from Manhattan street to 133d street, and from 145th street to 161st street, during 1916. Experts of the Commission testified during the hearings that the books of the company showed that ample funds were available for the prosecution of the repair work.

On August 8 the Commission adopted an order, holding that the tracks should be rebuilt in order to promote the security and convenience of the public and to insure adequate service and facilities. The terms of the order provided that the company should rebuild with new rails all of its tracks on Amsterdam avenue from Manhattan street to Fort George except a portion which had recently been rebuilt between 133d and 135th streets. The order specified that the rebuilding of the tracks from Manhattan street to 133d street and from 135th street to 161st street and from 180th street to 183d street, being the portions of the line in the worst condition, should be begun immediately and be completed not later than December 1, 1916. It was directed that one-half of the remaining work be done in 1917 and the other half in 1918.

The company later wrote the Commission asking for a modification of the order in respect of the tracks between 187th street and the Fort George terminal, which, it was stated, were practically new, and asked further to be relieved from rerailing the portion between 135th street and 145th street during 1916.

The Commission on September 6 adopted an order modifying the terms of the original order in keeping with the protest filed by the company, whereupon the Commission's order was accepted by the company. However, on October 25 the company asked for a further modification of the order together with extensions of time within which to complete track improvements previously

ordered by the Commission upon other lines of the Third Avenue system. The Commission took the matter under advisement and on December 20 referred the papers to Commissioner Hayward for examination and report.

*Case No. 2119 — The Long Island Railroad Company — Station Conditions on Rockaway Division.*— The Commission took under consideration on June 29 a report from the Chief of its Transit Bureau as to various conditions needing remedying at the stations on the Rockaway division of the Long Island Railroad and directed a hearing to be held for the purpose of investigating conditions at the following stations: Hammels, Holland, Steeplechase, Seaside and Rockaway Park. At the hearing the questions of improvements, changes, repairs, additions or alterations in construction of the several stations were considered; also whether the stations were kept in a clean and sanitary condition, and if the terminal facilities at the Rockaway Park station should be improved or reconstructed.

At one of the hearings a representative of the railroad company stated he was unwilling to concede that the stations on the Rockaway division were inadequate or unsanitary. He stated, however, that it was intended to rebuild the Rockaway Park station and to make changes and alterations in some of the other stations involved in the Commission's motion. After giving thorough consideration to the matter and receiving from C. L. Addison, assistant to the President of the Long Island Railroad, a letter in which he asserted that the company would rebuild the Rockaway Park station, repaint the station at Seaside, repaint the Steeplechase station and make certain changes in toilet facilities, repaint the station at Holland, alter the toilet arrangements and make other improvements to platforms, repaint the Hammels station and install new screens in enclosures for passengers, the Commission adopted an order on August 30 discontinuing the proceedings without prejudice to their renewal at any time.

It was stipulated by the railroad company that all of the work which it was possible to do during the year 1916 would be completed by the end of the season and that the remainder would be carried out prior to the beginning of 1917. The Commission's experts later reported that the improvements had in part been carried out by the end of the year.

*Case No. 2124 — Union Railway Company — Condition of Tracks on Jerome Avenue Line.*—After the receipt of many complaints, the Commission caused an investigation to be made as to the condition of the tracks of the Union Railway Company on Jerome avenue between Kingsbridge road and Woodlawn road. The report showed the tracks to be in a defective and alleged dangerous condition. It was shown that several derailments had occurred and in one of them seven persons had been injured. The experts of the Commission expressed it as their belief that the accident was due solely to the condition of the tracks.

The matters disclosed by the investigation were transmitted to the company and attention was directed to the fact that under date of April 19, 1915, the company had promised to undertake in that year the reconstruction and realignment of the Jerome Avenue tracks between Kingsbridge road and Woodlawn road. It was pointed out that the work had not been done, and the company was asked to note that in its program of proposed track changes submitted to the Commission on April 8, 1916, it had made no statement as to its plans for reconstruction of the Jerome Avenue tracks.

The letter to the company requested that it include the work on Jerome avenue in its program for the season of 1916. The company replied under date of June 8 in a letter signed by E. A. Maher, Vice-President and General Manager, that it was unable to make any promise as to the work which it expected to do during the year 1916 but added that it would do what it found possible with the labor available.

The Commission upon its own motion set a hearing for July 26 to investigate the condition of the tracks between the points complained of. As a result of the testimony produced at the hearings the Commission on August 3 adopted a final order directing the company to rebuild with new rails both tracks on Jerome avenue between Kingsbridge road and Woodlawn road, The Bronx, the work to be completed by November 1, 1916.

The company later asked for an amendment of the order to eliminate certain short sections within which new rail had recently been placed. An amended order, adopted September 6, further directed that the work be undertaken in connection with paving

work to be done by the City and to be completed concurrently therewith. Certain other minor repairs were directed in the order.

On September 11 the Commission had notice that the terms of the order would be complied with, and later received reports that the order had been fully complied with.

*Case No. 2086 — New York and Queens County Railway Company — General Service Conditions.*— Following the receipt of numerous complaints concerning service provided upon the several lines of the New York and Queens County Railway Company, a hearing order was adopted by the Commission to investigate the company generally as to the service. Hearings which were begun on motion of the Commission on May 8, 1916, were closed on May 12, 1916. The testimony taken was extensive and covered questions of equipment, schedules and the various related facts of operation and service in rush and non-rush hours.

On May 18, 1916, the Commission adopted an order specifying the number of cars which the company should operate in a half-hour period in the day on its Calvary line, Ravenswood line, Flushing-Jamaica line, Dutch Kills line, 51st Street line, Flushing line, Flushing Bridge line, College Point line, Corona line, Steinway line, Long Island City Shuttle line, Broadway line and Flushing Avenue line. The period generally covered by this order was from 6:00 A. M. to midnight. It was directed that the order should take effect June 1, 1916, and the company was given permission to notify the Commission at any time in writing if it considered that conditions warranted reducing the service from the amount specified in the order.

On May 25, 1916, the Commission received a letter from William Wood, President of the New York and Queens County Railway Company, stating various reasons for its inability to comply with the order. The company at the hearing had, through Mr. Wood, given its promise to coöperate with the Commission in bringing about the improvement of service.

President Wood gave as his reasons for inability to comply with the order an insufficient number of crews to operate the cars required, inability to hire a sufficient number of men, and the brief a time allowed in which to make up the necessary schedule.

He further stated that the proposed service was not necessary, that the order was made in disregard of the evidence, was confiscatory, and that during rush hours it would be impossible to make the running time necessary to carry out its terms. He cited a number of other reasons, but repeated his assurance that the company was willing to make some increase in service. Later an application was filed for a rehearing, which was denied by the Commission on June 1, 1916.

On June 6, 1916, the company obtained from Justice Thomas F. Donnelly, Supreme Court, New York County, a writ of certiorari to review the proceedings of the Commission in respect of the service order.

The Commission on November 27, 1916, authorized the return to the writ of certiorari which was duly filed on December 4, 1916. Two days later Mr. Wood wrote the Commission stating that, if certain modifications of the order of May 18 were made the company stood prepared to accept the order. With the letter from President Wood were submitted proposed new schedules representing the actual service which would be provided under his suggestions for an amended order. At a subsequent meeting of the Commission the letter of Mr. Wood was referred to Commissioner William Hayward for consideration and report.

*Case No. 2095-A — Railroad and Street Railroad Corporations — Condition of Elevated Structures and Bridges.*— This case was instituted to provide better policing and inspection of all elevated railroad structures and bridges, except municipal bridges, on the rights of way of steam railroads, rapid transit railroads and street surface railroads within the First District. It is an outgrowth of and amplifies and supersedes Case No. 2095 begun earlier in the year, on which a final order was issued. The order substantially requires a certification by the companies affected as to the conditions of the structures during each calendar year. The Commission's limited inspection force is too small to provide for frequent and thorough inspection of the many miles of elevated railroad structures and bridges, other than City bridges, used by the various companies. Under the terms of the order the several companies are required during each calendar year to make periodical inspections of elevated structures and bridges, such inspection

to be under the supervision of competent and responsible officials or employees. Each company operating upon continuous elevated structures of more than one-half mile in length is required within thirty days after the expiration of the calendar year to file with the Commission a report, duly verified by the Chief Engineer or other competent or responsible official or employe of the company, to the effect that such company's elevated structures were duly inspected by competent engineers during the year and found safe; or if the structures were found unsafe and in need of repair in any respect the order sets forth that the report shall so state, giving, further, the particulars in which the structures were found unsafe and in need of repair, and what steps had been taken or were to be taken to make them safe, and to repair them. The order also directed that in the case of all elevated structures or bridges less than one-half mile in length, each railroad or street railroad corporation should within thirty days after the completion of one such inspection each year make a similar report to the Commission. It was directed that the order should take effect immediately and the different companies were required to report whether the order would be accepted. At the close of the year the Commission had received notice from practically all the companies involved that the order would be accepted and obeyed.

*Case No. 2102 — Brake Shoes on Cars of Elevated Lines.*— This case was instituted by the Commission in an effort to determine if some of the screeching noise caused by the application of brakes on elevated trains might be obviated. The Commission has been devoting a great deal of attention to the lessening of noise caused by the operation of trains and cars, and its various Bureaus having to do with matters concerning the mechanical equipment of such lines have been instructed to investigate and make experiments for the purpose of relieving noisy conditions.

In 1915, complying with an order of the Commission in Case No. 1746, all surface cars operated in the First District and fitted with steel wheels were equipped with a type of brake shoe containing an insert of lubricant, or some other device equally efficient for the elimination of noise incident to the application of brakes. The Commission's Electrical Engineer reported on May 19, 1916, that excellent results had been obtained through this order, and

that while before the order was issued complaints as to the noise created by the application of brakes had been frequent, following the issuance of the order no such complaints were received. In the same report the Electrical Engineer noted, as a result of a series of observations at several points on the various lines of elevated railroad in New York and Brooklyn, that the application of the brakes on an average of more than fifty per cent of the elevated trains created loud noises. The Commission adopted a hearing order calling for a hearing on June 19, 1916. At this hearing the operating officials of the different lines expressed a willingness to coöperate in any experiments that might be undertaken, and agreed to equip certain trains with a lubricating brake shoe to determine whether the application of such a device would be effective in noise prevention. Doubt was expressed by some of the operating officials as to whether such a brake shoe could be efficiently employed upon the relatively heavier cars of the elevated lines. Six months' time was asked by the companies in which to undertake the experiments, and the hearing was thereupon adjourned to December 4, 1916.

On June 29, 1916, the Commission issued an order directing the companies to equip and operate a sufficient number of elevated cars with brake shoes containing a lubricant or other device equally efficient for the purpose of lessening noise, to determine whether the lubricating brake shoe or other device would effect the purpose desired. The order was accepted by the Interborough Company and the Brooklyn companies, and schedules of cars equipped and to be equipped with noise lessening devices were filed with the Commission. From time to time preliminary reports of the results of the experiments have been submitted. When the hearing was resumed on December 4, 1916, the proceedings were adjourned to March 12, 1917, in order to permit of the experiments being concluded before final action was taken by the Commission.

*Case No. 1925 — The Long Island Railroad Company — Equipment with Emergency Lighting System of Subway Type of Cars Operated in Atlantic Avenue Tunnel.*—The Commission on its own motion in 1915 directed a hearing to determine whether an order should be issued calling upon The Long Island Railroad

Company to equip the subway type of car operated by it through the Atlantic Avenue tunnel in Brooklyn with an emergency lighting system. As a result of investigations and of testimony given at the hearings, the Commission on April 16, 1915, ordered the company to install by November 1, 1915, an emergency lighting system in all of its cars used as above mentioned, such cars being 134 in number. The order directed the company by May 15, 1915, to submit to the Commission for approval a statement and plan showing in detail the emergency lighting system it was proposed to install. The company agreed to accept the order, and to submit to the Commission plans and a description of the system it proposed to use. The plans did not meet with the approval of the Commission's engineers, because the emergency system as outlined was not of the automatic type so arranged that in case of failure of the regular system of car lights connected with the third rail, the emergency lights would go on automatically. The company replied to the Commission that it could not accept the order if an automatic emergency system was proposed, on account of the cost and because of the belief that such a system was not necessary.

The company held that conditions could hardly be expected to occur where an emergency lighting system could not be thrown into operation by the brakeman or conductor. Thereupon the Commission reopened the proceedings and held another hearing at which representatives of the railroad company voiced the objections of the company to an automatic system. Following the rehearing, the Commission amended its original order to provide that the railroad company should install by February 1, 1916, on twelve of its subway type of cars an emergency lighting system to operate in each of said cars three lamps of not less than eight candle power to be operated automatically.

The order was issued on November 23, 1915, and the hearings were thereupon postponed to June 2, 1916, at which time the results of the trial installation of the automatic system were to be reported. When the hearings were resumed in June last, the company again protested against being compelled to install an automatic system, but stated its willingness to install in all of the 134 cars a non-automatic emergency system. The Commission

gave thorough consideration to the matter, and on June 22, 1916, unanimously adopted an order directing the installation by May 1, 1917, of a non-automatic emergency lighting system on all of its subway cars. The company agreed to accept the order, and install the lighting system as provided in the amended order.

*Case No. 2043 — The Brooklyn Heights Railroad Company — Application for Permission and Approval for the Construction and Operation of an Extension from Island Avenue through Private Property and Streets to Flatbush Avenue, Brooklyn.*— This company proposed to extend its Flatbush Avenue line for a considerable distance in order to provide service for the employes of several factories distant a half mile to a mile from the nearest existing railroad line. Soon after the proceedings were begun it developed that the proposed right of way extended through private property, portions of which would later be opened as a part of the Brooklyn highway system. Hence objection was made by The City of New York, which maintained that if the Commission granted the permission desired it would in effect be the granting of a perpetual franchise to the company for operation through city streets.

Several hearings were held and the Commission early in January granted permission for construction of a part of the line, and on May 25, 1916, granted the desired approval for the construction and operation of the entire line. The Commission also approved an opinion by Commissioner Whitney in which he pointed out that inasmuch as the company had obtained title to the property through which it proposed to construct the extension, there remained only the question whether the extension would be a public convenience and a necessity. He found that the extension would provide service for several hundred persons and would thus prove a public convenience. He noted the contentions of the City authorities respecting perpetual franchises, and that while the matter was pending before the Commission the City had a bill introduced in the Legislature amending the City Charter to require the company to secure a franchise under the conditions presented in this case. The Legislature, however, failed to enact the measure desired by the City authorities. This failure

was interpreted by Commissioner Whitney as an indication of legislative intent. The opinion further held that the City was apparently not maintaining a consistent attitude in respect of perpetual franchises, inasmuch as it was apparently proposing to grant certain rights on the west side of Manhattan to the New York Central Railroad Company which would in substance be a grant in perpetuity, at the same time that it was opposing the application of the Brooklyn company. In effect Commissioner Whitney found that there was no good ground for not granting the desired rights to the railroad company, and the Commission supported his views, adopting the order as above noted.

*Case No. 2121 — Union Railway Company — Extension of the Boston Road Line from East 177th to East 181st Street.*—During the early part of the year the Commission received complaints from the East Tremont Taxpayers Association as well as from a number of people residing in the vicinity of 177th street and Boston road, and from property owners in the same vicinity, requesting that the Commission direct the Union Railway Company to extend its Boston Road line from its terminus at East 177th street and Boston road to East 181st street and Boston road. The complainants stated that the extension would add to transportation facilities in the neighborhood mentioned, and asserted that a daily average of 2,000 persons visited Bronx Park by the Boston Road entrance, that on Sunday the number was from 12,000 to 15,000 using this entrance, and that those desiring to enter Bronx Park at Boston road and approaching the park by the Boston Road line were obliged to walk a considerable distance to the entrance or transfer from the Boston Road line for part of the distance and walk for part of the distance.

The request for the extension was taken up with representatives of the railway company by Commissioner Henry W. Hodge, and on behalf of the company it was stated that the operation petitioned for was not feasible, in that it would interfere with the service provided on certain other surface lines operating in the vicinity. The Commission directed that a hearing be held. It developed at the hearing that apparently the Union Railway Company possessed no franchise for the extension desired, whereupon the petitioners orally amended their petition for an extension as

as 180th street. Edward A. Maher, Jr., for the railway company asserted that it had no right to operate north of 179th street, and that in addition it would be impossible for it to operate the Boston Road line over tracks belonging to another company north of 177th to 180th street without substantially interfering with service on two other lines utilizing the tracks of the other company, the New York City Interborough Railway Company. It was also shown that the lines of the Union Railway Company and the lines of the New York City Interborough Railway Company were operated as portions of the Third Avenue system.

On September 21, 1916, the Commission adopted an order discontinuing the case, holding that facts submitted at the hearing did not warrant the ordering of the extension desired. The Commission in taking this action was guided by an opinion of Commissioner William Hayward, who pointed out that the power of the Commission to order the desired extension was dependent upon whether the Union Railway Company possessed the requisite franchise rights. No evidence existed that the Union Railway Company possessed a franchise for constructing and operating tracks north of 177th street and Boston road, although the company had apparently constructed tracks to a point between 178th and 179th streets which it used for switching purposes. As to the request of the Union Railway Company, being a part of the Third Avenue system, be directed to operate over the tracks of the New York City Interborough Railway Company, also a part of the same system, for the distance of the desired extension, Commissioner Hayward pointed out that the law gives the Commission power to compel the companies to make such an agreement, although under common control the two companies were separate corporate entities, and the Commission possessed no power under the law to compel them to use their power interchangeably. The opinion further expressed regret that the Commission was unable through lack of sufficient power under the law to give the relief desired by the petitioners.

*Case No. 2003 — Interborough Rapid Transit Company — Extension at 150th Street on the Ninth Avenue Elevated Line.*—Beginning in September, 1915, hearings were held on motion of the Commission to determine whether a new station should be constructed in the vicinity of Eighth avenue and 150th or 151st street.

on the Ninth Avenue Elevated line. The hearing followed the receipt of petitions from several residents and property owners in the vicinity, working in connection with the Upper Harlem Elevated Station Committee. The petitioners at the hearings stated that there was a lack of sufficient transit facilities in the neighborhood, and on November 23, 1915, the Commission adopted an order directing the erection of a station centering approximately at 150th street and Eighth avenue to be completed by August 15, 1916.

The company was given several extensions of time in which to notify the Commission whether it would accept the order, and on February 17, 1916, the Commission denied any further extension.

On March 9, 1916, the company applied for a rehearing, stating that the location desired was one which, because of the natural topography of the neighborhood, was not likely to produce a marked increase in traffic, but stating that 151st street and Eighth avenue would be a more appropriate location for a station in the event that sufficient evidence to justify a new station should be produced. The Commission denied a rehearing, but granted the company further extension of time, which was followed by a definite request from the company for a modification of the order for the location of a station at 151st street and Eighth avenue.

On May 4, 1916, the Commission amended the order so as to locate the station at 151st street. After negotiations had been under way between the company and property owners in the neighborhood, the Interborough Company on July 27, 1916, informed the Commission that the order would be accepted and the station constructed as directed, provided the Commission would postpone the date at which the station was to be placed in operation until March 1, 1917. Postponement was desired, the company stated, owing to the impossibility of obtaining materials and completing the work before the date given. The necessary extension of time for the completion of the station was given by the Commission, and the final order was accepted by the Interborough Company. At the close of the year construction of the station was well under way.

*Case No. 2074 — New York Consolidated Railroad Company — Service between Cypress Hills and Chambers Street.*— On the complaint of C. E. Reed and others, the Commission directed

ings for the investigation of conditions at the Chambers Street terminal, Manhattan, in connection with the operation of the Cypress Hills trains over the Broadway Elevated line in Brooklyn.

Testimony was given at the hearings to the effect that the loading platforms at the Chambers Street station utilized by the Cypress Hills trains were congested during rush hours, and that the congestion was partly due to the number of stairways and entrances at the platforms. It was shown that on the loading platform seven stairways existed, fully half the passengers depending to the platform using one of the seven stairways. The testimony showed that while a fairly adequate train service was provided, the passenger traffic was so dense that trains commonly ran behind schedules, resulting in a substantial reduction of service. The Commission did not adopt any final order in this case, but on April 6 Commissioner Travis H. Whitney issued an opinion setting forth the facts stated in reference to the Chambers Street terminal, and adding that the operating company promised every possible accommodation as to improvement of service. Commissioner Whitney, however, recommended that, keeping with observations made by Commissioner Henry W. George, Commissioner Charles S. Hervey and himself, two of the stairways on the Cypress Hills loading platform at Chambers Street be removed. A contract was entered into calling for the removal of the second and third stairway, but later it was stated that sufficient relief would be provided to traffic if only one stairway were removed. This was done, and improvement in the service has since been noted.

*Case No. 2034 — The Coney Island and Brooklyn Railroad Company, Coney Island and Gravesend Railway Company, Brooklyn, Queens County and Suburban Railroad Company, Manhattan Electric Railroad Company, The Brooklyn Heights Railroad Company — Use by Passengers of Running Boards of Open Trolley Cars —* Complaints were made to the Commission during 1915 by residents of Brooklyn to the effect that on the Franklin Avenue line, in particular, passengers made a practice of standing on the running boards of open trolley cars. Investigation made by the Commission's transit inspectors indicated that such conditions prevailed, particularly during the rush hours, despite the existence

of Rule 106 of the general rules and regulations for the government of employes of the surface lines of the Brooklyn Rapid Transit system, which directs that passengers must not be permitted to ride on buffers, steps or other dangerous places on the cars, in which conductors are directed to warn passengers attempting to ride on running boards of the danger of the practice and regulation of the company requiring them to step in behind the seats.

S. W. Huff, President of The Coney Island and Brooklyn Railroad Company, replying on August 23 to a letter of the Commission, stated that the division superintendent had been directed to see that the rule above referred to was enforced whenever possible. The letter further stated it to be a well-known fact that oftentimes passengers insist on standing on the running boards when there are vacant seats in the cars.

Further reports were made by the Commission's traffic inspectors showing conditions of overloading and indicating that passengers still used the running board despite statements by the company that efforts would be made to eliminate the practice. Suggestion was made by Mr. Huff in a later letter that notices be posted in the cars to the effect that passengers must not ride on the running board, by direction of the Public Service Commission.

Dissatisfied with the progress which had been made in the attempt to end the practice complained of, the Commission on October 27, 1915, directed that hearings be held in regard to the practice of the use by passengers of the running board on the cars. Commissioner Williams held hearings on November 11 and 23, at which the several railroad companies interested were represented by counsel and officials. The Commission, on January 13, 1916, adopted an order directing The Coney Island and Brooklyn Railroad Company, the Coney Island and Gravesend Railway Company, the Brooklyn, Queens County and Suburban Railroad Company, the Nassau Electric Railroad Company, The Brooklyn Heights Railroad Company to place in their general rules certain changes to cover the situation. Under the new rules passengers were not to be permitted to ride on buffers, steps or other dangerous places on the car. It was further ordered that children should not be allowed to ride on the running boards.

occupy end seats, or be permitted to ride on the front platform unless accompanied by an adult. Passengers attempting to ride on the running board when there were vacant seats, one paragraph of the new rules stated, "will be required to leave the running board and conductors will use all reasonable means to secure compliance with this rule; but in no such case shall force be used or arrest be made by employees." Other paragraphs of the rule required that passengers should leave the running board and step in between the seats on approaching vehicles or in obstructions near the track. It was also ordered that conductors should not allow passengers to put their feet on the seats or children to stand on the seats.

The order was accepted January 14, 1916, and later reports of the Commission indicated that it had been included in the companies' books of rules in compliance with the direction of the Commission.

*Case No. 2063 — Manhattan Bridge Three Cent Line — Complaint against Practices of the Brooklyn and North River Railroad Company.*—In this case, in which a formal complaint was filed with the Commission early in January, 1916, the unusual situation existed of one public service corporation complaining against the practices of another.

The Manhattan Bridge Three Cent line, the complainant corporation, obtained a franchise on July 10, 1912, from The City of New York, with supplementary franchises in 1913 and 1915, to construct and operate a street surface railway from Fulton street and Flatbush avenue extension, in Brooklyn, through the Manhattan extension and over the Manhattan bridge to the Manhattan terminus of the bridge at New York at a rate of fare of three cents, two tickets for five cents.

In September 9, 1913, The City of New York made a franchise agreement with the Brooklyn and North River Railroad Company authorizing that corporation to maintain and operate a double-track surface line over a route beginning at the North River and extending through Canal street, Manhattan, over the Manhattan bridge and through Flatbush avenue extension to Fulton street.

The Manhattan Bridge Three Cent line complained that the Brooklyn and North River Railroad Company was operating a

very considerable number of cars for purely local service between the termini of the Manhattan bridge and that it was doing so in violation of the terms of its franchise. The complaint further stated that the route of a considerable number of the cars operated by the Brooklyn and North River Railroad Company ended at the Brooklyn terminal of the Manhattan bridge, which was also stated to be in violation of the terms of its franchise. It was also contended that the Brooklyn and North River Railroad Company carried passengers for less than five cents for a continuous ride along a portion of its route identical with the route operated by the Manhattan Bridge Three Cent line and that this was in violation of its franchise. The Commission was petitioned to take steps to abate the alleged violations.

The Manhattan Bridge Three Cent line is known as an independent company, while the Brooklyn and North River Railroad Company was organized by the officials of the companies of the existing systems in Manhattan and Brooklyn.

The Brooklyn and North River Railroad Company in its reply denied that it had authorization to maintain and operate a double-track surface line through Canal street, beginning at the North river, and put in a general denial of the various other allegations of the complaint and alleged that the Manhattan Bridge Three Cent line had no legal right to institute a proceeding before the Public Service Commission.

The Manhattan Bridge Three Cent line again requested the Commission to take the matter under advisement and give a hearing and render a speedy determination.

On April 6 a hearing order was adopted and a number of hearings were thereafter held, at which much testimony was taken. Counsel for the Manhattan Bridge Three Cent line stated at the first hearing that the effect of the proceeding was to ask the Commission to compel the Brooklyn and North River Railroad Company to live up to the terms of the agreement with the City, as set forth in the franchise grant. Counsel contended that the franchise of the Brooklyn and North River Railroad Company compelled that company to carry passengers across Manhattan bridge for three cents, or two tickets for five cents, but that it should not carry passengers at any place where the route was

tical with the route of the Manhattan Bridge Three Cent unless a charge of five cents was made. Counsel for the Manhattan Bridge Three Cent line made the further contention the Brooklyn and North River Railroad Company was either violating the provision of its franchise which forbade it to do anything but to operate a through route, or another provision of its franchise containing a prohibition against operation by the Brooklyn and North River Railroad Company on any part of the route identical with the Manhattan Bridge Three Cent Line Company's route for less than five cents.

The testimony taken at the several hearings and of memoranda submitted by the companies had reference largely to points of law as to the construction of the terms of the franchises of the two companies, and on April 19 the Brooklyn and North River Railroad Company submitted to the Commission a supplement to its passenger tariff, as filed with the Commission. Under this supplement the Brooklyn and North River Railroad Company proposed to charge a three cent cash fare, or two tickets for five cents, between Centre street, Manhattan, and Concord street, Brooklyn. The company stated that it believed the service which could be provided by this new fare schedule would accommodate a very considerable number of persons. On April 20 the Commission adopted a motion denying the application for the filing of this tariff supplement.

On June 1 the Commission adopted an opinion by Commissioner William Hayward, to whom the matter had been referred, and an order was unanimously adopted in conformity with his opinion.

The order directed the Brooklyn and North River Railroad Company forthwith to abate each and every violation of its contract with The City of New York, to discontinue the operation of any of its cars between the termini of the Manhattan bridge and to operate purely local service, to discontinue receiving passengers at any point on Canal street to the west of the Manhattan terminal of the Manhattan bridge and transporting such passengers to the Brooklyn terminal of the Manhattan bridge, or to any point east of the said Brooklyn terminal for a rate of fare less than five cents for one continuous ride. The company was also directed

to discontinue receiving passengers at the Manhattan terminal of the Manhattan bridge and transporting such passengers to any point in the Borough of Brooklyn east of the Brooklyn terminal of the Manhattan bridge for a rate of fare less than five cents for a continuous ride, and to discontinue receiving passengers at any point on Flatbush avenue extension east of the Brooklyn terminal of the Manhattan bridge and transporting such passengers to the Manhattan terminal of the Manhattan bridge or at any points west of said Manhattan terminal at a rate of fare of less than five cents for one continuous ride. It was also provided that the company must discontinue receiving passengers at the Brooklyn terminal of the Manhattan bridge and transporting such passengers to any point in the Borough of Brooklyn beyond the Manhattan terminal of the Manhattan bridge for a rate of fare less than five cents for one continuous ride, and further directed that the Brooklyn and North River Railroad Company discontinue operating its cars so as to permit passengers to be transported over the Manhattan bridge and beyond the termini thereof for a rate of fare less than five cents for one continuous ride.

The Brooklyn and North River Railroad Company petitioned the Commission on July 6 for a rehearing in the matter, holding that the order was unreasonable, unjust and unlawful, and alleging that the Manhattan Bridge Three Cent line was endeavoring to maintain a monopoly of local service over the bridge. The Commission granted a rehearing, which was held on July 27, after several adjournments. Counsel for the two companies argued for and against the terms of the order. Briefs were filed by both companies, still further elucidating their respective contentions, and, on November 29, 1916, the Commission adopted an order amending its order of June 1, striking out the provision from the original order which prohibited the Brooklyn and North River Railroad Company from carrying passengers from any point in Manhattan across to the Brooklyn terminus of the Manhattan bridge for three cents. In thus amending the original order the Commission acted on the theory that the route covered by the amendment was not in the exact sense of the franchise a competing route with the Three Cent line.

Early in December the Brooklyn and North River Railroad Company requested an extension of time to December 21, 1916, within which to notify the Commission whether the amended order would be obeyed. The application was later denied.

*Case No. 2067—The Long Island Railroad Company—Service between Flatbush Avenue Station and Rockaway Park, Rockaway Beach Division.*—On February 3, 1916, the Belle Harbor Property Owners' Association, Inc., of Rockaway Beach, pressed an earlier complaint as to discontinuance of certain trains between Flatbush avenue and Rockaway park, and stated that at a meeting of the Directors of the Association on February 2, the board had adopted a motion that steps should be taken to determine, if possible, whether the service might be restored. On March 2, 1916, following considerable correspondence, the Commission adopted a hearing order calling for a hearing on March 6.

The hearing order covered the question whether the railroad company should be directed to operate an additional train or trains leaving Rockaway park about 7:11 A. M. and arriving at Flatbush avenue about 7:47 A. M., and leaving Flatbush avenue about 5:21 P. M. and arriving at Rockaway park about 5:58 P. M.

The Commission on March 23 adopted a final order directing the company to restore the train service desired on May 1 of each year and to continue such service thereafter to December 25 of each year. The company later accepted the order.

During the hearings it was shown that the trains in question had been operated in other years during the Summer months and that in 1915 the service was continued to December 24 and then discontinued for the Winter months, the company maintaining that sufficient Winter business did not exist to warrant the operation of these trains between December 24 and May 1.

*Case No. 2097—Brooklyn Rapid Transit System, Surface Lines—Investigation as to Need for Additional Cars.*—The Commission on its own motion on May 4, 1916, directed that a hearing be held to determine whether the surface lines of the Brooklyn Rapid Transit system should be required to purchase or provide additional cars, and if so, the number of such new

cars and the type to be obtained. During the course of the hearing, counsel for the Brooklyn companies denied the necessity for the acquisition of additional equipment, both under present and prospective conditions of operation. Witnesses for the Commission, however, produced statistics showing that the companies comprising the Brooklyn system owned 1,943 cars in the year 1915 as against 1,944 in 1914, and that in the morning hours of 1915 the company operated an average daily of 1,527 cars, or 78.6 per cent of its total number, and in the evening hours an average of 1,849 cars, or 95.2 per cent of its total equipment. Other figures introduced in evidence by the Commission showed that the traffic on surface lines in Brooklyn had increased 31.2 per cent between 1908 and 1915, and that the increase during the latter year was 2.74 per cent. Representatives of the company stated on their part that the opening of new rapid transit lines in Brooklyn would seriously affect the operation of surface lines, and that the company should not be required to purchase new surface equipment.

On December 19, 1916, the Commission approved an opinion by Commissioner Travis H. Whitney and authorized an order directing the several companies constituting the Brooklyn Rapid Transit system to purchase or provide as rapidly as possible 250 large cars to supplement the 1,943 cars now operated by them. It was directed that the cars be placed in service during the season of 1917 and 1918, but all of the cars must be in service by 1918. The opinion called for cars of the center-entrance type, each having a seating capacity of 58 passengers. Cars of similar type are the largest now operated on the Brooklyn system. Commissioner Whitney found insufficient equipment to be largely the cause of the present conditions of overcrowding and inadequate service in Brooklyn.

The Commissioner held that it is impossible to regulate street car service in New York City by so-called health ordinances, these limiting the number of passengers which may be carried, and having the effect of regulating the public and not the companies. He found that the 4.8 per cent of cars held in reserve and for repairs by the company altogether too narrow a margin, expressing the opinion that 8 per cent of the total number of

cars should be the percentage so held. Elsewhere in the opinion he said: "The duty of a street railroad to provide adequate service is not discharged by furnishing sufficient means for accommodating the traffic actually transported by it, but the street railroad must be prepared to meet the reasonable requirements resulting from the development or growth of the community which it serves. In a metropolis in which the companies have been operating for many years, and which has grown so rapidly in population and in transportation needs as has the Borough of Brooklyn, a lack of provision for the needs of the immediate future cannot but result in failure of discharging the positive duty of the street railroad carriers to render adequate service as to the time when the service requirements existed."

The opinion also held that it was neither proper nor reasonable to operate surface cars during the rush-hour periods with a standing load of from 60 to 100 per cent. The belief was also expressed that by replacing a number of the smaller cars now operated over limiting points in the Brooklyn system, with cars of larger capacity, a substantial improvement would be effected. The Commission concurred in Commissioner Whitney's contention that while improvements would follow the purchase, the number of cars requested might not eliminate the standing passengers in the rush hours, but would nevertheless reduce materially excess loading during those hours.

*Case No. 2127 — Interborough Rapid Transit Company — Station Facilities at 14th Street, Second Avenue Elevated Line.* — Following the receipt of complaints concerning the inadequacy of stairway facilities at the 14th Street station of the Second Avenue Elevated line, the Commission on August 3, 1916, directed that formal proceedings be commenced to determine whether the Interborough Rapid Transit Company should be required to provide additional stairway facilities at that point. The beginning of these proceedings followed the receipt of a letter from the Interborough Company stating that counts of passenger traffic made by it did not reveal the necessity for an additional stairway. The Commission directed that hearings be held. Testimony was given by the Commission's experts as to the insufficiency of the stairway facilities, it being stated that

no additional stairways had been added by the Interborough Company at the 14th Street station to take care of the increase in traffic occasioned by the opening of the express service on the Second Avenue line. Counsel for the company announced that it would be willing to construct a new stairway at the southwest corner of 14th Street and First avenue, upon which latter thoroughfare the Second Avenue line operates at 14th street. He stated, however, that the company did not believe it necessary to construct a new stairway at the southeast corner. The Commission, however, directed the company to undertake negotiations for the acquisition of the necessary rights for the construction of stairways at the southwest and southeast corners.

On December 11, 1916, at one of the hearings, Counsel for the Interborough Company announced that negotiations were under way with the property owners at both corners. The Commission was requested not to make a final order in the case until the company had been able to complete its negotiations for the property, Counsel holding that the issuance of an order before the acquisition of the necessary rights might result in the company being obliged to pay a prohibitive price. Understanding that the company would prosecute its effort to secure the necessary property, the hearings in the meantime were adjourned to December 27, 1916, at which time it was expected the negotiations might be concluded.

*Case No. 2135 — St. Albans Improvement Association against The Long Island Railroad Company — Request for Improvement of Service to and from St. Albans.*— On May 24, 1916, the Commission received a complaint from the St. Albans Improvement Association of the Borough of Queens, placing before the Commission a request for additional train service between the St. Albans station and the Flatbush Avenue station in Brooklyn and the Pennsylvania station in New York, and for additional service between Jamaica and St. Albans. The complaint pointed out that the community of St. Albans was wholly dependent upon the trains of the Montauk division of The Long Island Railroad Company, there being no other transit facilities available. It was stated that St. Albans was a growing community and that additional train service was necessary. The association appealed

the Commission following negotiations by it with the railroad company in which the latter stated its unwillingness to provide additional service requested. Investigations were made by the Commission's Transit Bureau, and recommendations were made for an improved train service. When the matter was submitted informally to the railroad company by the Commission, the company again reiterated its position, stating that it would incur an extreme hardship upon it to provide additional trains or to make additional stops at St. Albans, pointing out that the service to and from that place was increased in 1915. Further investigations by the Commission's Transit Bureau produced reports tending to justify the complaint, and the Commission on August 1, 1916, ordered hearings for the purpose of investigating the St. Albans train service.

A hearing was held on October 2, 1916, at which the subject matter of complaint was fully gone into, the schedules of the railroad discussed and the position of the railroad company made known.

On October 26, 1916, the Commission adopted an order holding that the evidence had shown that the service of the railroad company between St. Albans and the western termini of The Long Island Railroad Company was unreasonable, improper and inadequate, in that the company did not cause a sufficient number of trains to stop at the St. Albans station during the evening hours, and did not stop its westbound train No. 59 at the Union Hall Street station, Jamaica. The Commission held it to be reasonable to require the company to improve its service by stopping at the St. Albans station its eastbound train No. 116 scheduled to leave the Jamaica station at about 5:39 P. M. It was provided that this train should make connections at the Jamaica station with the train scheduled to leave the Pennsylvania station at or about 5:19 P. M., and the train scheduled to leave the Flatbush Avenue station at or about 5:17 P. M. The company was also required to stop its westbound Montauk Division train No. 59 at the Union Hall Street station. The St. Albans Improvement Association later notified the Commission that it was pleased with the provision made for stopping train No. 59 at the Union Hall Street station, but stated that in other respects the order of the

Commission did not provide what the residents believed adequate service.

*Case No. 2136—Arthur Woods, Police Commissioner, Complainant, against Interborough Rapid Transit Company — Protective Railings at Stations — Case No. 2137 — Arthur Woods, Police Commissioner, Complainant, against the New York Consolidated Railroad Company, the South Brooklyn Railway Company and the New York Municipal Railway Corporation — Protective Railings at Stations.*— These two cases similar in tenor resulted from a complaint filed by Police Commissioner Arthur Woods of New York with the Public Service Commission on August 25, 1916. Police Commissioner Woods stated that there are throughout the city a great number of subway and elevated railroad exits close to the curb and facing in the same direction as vehicular traffic.

“On account of the construction of these station exits,” said the complaint, “the view of persons emerging therefrom into the street is more or less obstructed, with the result that serious accidents are likely to occur to the unthinking pedestrian and children, who are apt to step directly from the exit into the street in the immediate flow of vehicular traffic.” The complaint added that in the interest of public safety the company had been requested by the Police Commissioner to install protective railings at all such locations, and that in reply a list of station exits along the several railroad lines where such railings might be installed to advantage had been submitted to him, and that if approved the company would proceed to have the necessary railings promptly installed. He added that the list submitted by the company had been checked up by the Police Department, and with one exception approved and returned to the company, but that on the date of his complaint the railings had not been installed. A complaint order was adopted by the Commission, and a copy of the complaint served on the Interborough Rapid Transit Company. Correspondence followed, and on September 22, 1916, the Commission was informed by the Interborough Rapid Transit Company that an application had been made to the President of the Borough of Manhattan for the necessary permits for the installation of pipe posts in sidewalks in connection with the placing of pro-

tective railings along curb lines from kiosks at a large number of subway stations.

On September 27, 1916, the Commission was informed by letter from Police Commissioner Woods that the action of the company covered his complaint and was satisfactory to the Police Department.

Respecting the complaint against the Brooklyn companies, Commissioner Woods stated that he received a communication from the New York Consolidated Railroad Company on June 29, 1916, following submission to the company by him of a list of locations for closed protective railings; that the company some months before installed railings at several locations, and that as a result an accident claim had been filed against the company in view of a happening at one of the points so protected. The company further stated to the Police Commissioner that it was not sure that such railings might not be considered as obstructions on the street and the company held responsible on that account. It also suggested to the Police Commissioner that, if railings were installed, they be placed only upon order of proper authority. Copy of the complaint was filed against the Brooklyn companies. Answer was made to the effect that the city should be the responsible party rather than the railroad company; that the suggested railings would constitute obstructions on the street, and that the authorization for their installation should be made by some authority other than the Public Service Commission, and that railings should not under any circumstances be required at the various exits named in the answer, in view of the fact that such stations were shortly to be moved or reconstructed. The Commission thereupon directed a hearing to be held on October 16, 1916, when testimony was taken as to the condition existing at various subway and elevated railroad exits in Brooklyn.

Police Inspector Thomas Myers, representing the Police Department, gave testimony as to conditions which had been observed at various points by investigators for the Police Department. Photographs showing conditions at several of the subway and elevated exits were placed in evidence, and Inspector Myers declared these were typical of a large number of other exits in Brooklyn. He testified that the conditions shown were dangerous

in some measure, and afforded opportunity for passengers leaving stations to meet with accidents. In some cases, he said, the view of passengers leaving elevated stations was obstructed by advertising boards placed at the sidewalk level of the station. He urged that these be removed, cut away, or placed differently, to permit of a clearer view of the street and oncoming traffic by persons descending the stairs. He stated that news-stands placed about several of these subway exits were additional deterrents to an unobstructed view of the street, and added that in some instances subway exit railings were so high as to prevent a clear view of the street traffic, particularly by children.

Commissioner Henry W. Hodge asked Counsel for the Brooklyn companies if those companies would be willing where advertising boards stood at right angles to the street at the bottom of stairways where descending passengers were facing oncoming street traffic to place such boards at the side of the stairway, and in instances where traffic was bound in the same direction as the descending passenger if the companies would be willing to remove the boards to the side of the stairways parallel to the curb, and at the same time reduce them to a height of three feet six inches. On behalf of the Brooklyn companies it was stated that they would be willing to do this without further order from the Commission, providing no objection was made by the Borough President of Brooklyn. The question of changes in stairway exits was taken under consideration by the Commission, and recommendation was made that the matter of the removal of news-stands at subway exits be taken up with the Borough President of Brooklyn by the Police Commissioner. Inspector Myers, on behalf of the Police Department, expressed himself as generally satisfied with the outcome of the hearing, which was thereupon closed by the Commission.

## CHAPTER VI

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### REGULATION OF GAS, ELECTRIC, AND LIGHT, HEAT AND POWER CORPORATIONS

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The results achieved in the regulation of gas and electric companies marked the year 1916 as probably the most important in this respect since the creation of the Commission in 1907. The rates of three great electric lighting companies were reduced through the efforts of the Commission, while it directed a reduction in the rates charged for gas by four companies and started proceedings against two other companies supplying electricity, looking to a reduction of their rates. The two cases last mentioned were under way at the end of the year. The three electric companies referred to were the New York Edison Company and the United Electric Light and Power Company, whose maximum rates were reduced from 8 cents to 7½ cents, and from 7½ cents to 7 cents per kilowatt hour beginning January 1, 1917, and July 1, 1917, respectively, and the Edison Electric Illuminating Company of Brooklyn, whose maximum rate was reduced from 11 cents to 8 cents, to take effect January 1, 1917.

Reductions were ordered in the rates for gas of the Newtown Gas Company from \$1 to 85 cents and of the Woodhaven Gas Light Company, the Richmond Hill and Queens County Gas Light Company and the Jamaica Gas Light Company from \$1 to 95 cents. The Commission also instituted proceedings to determine whether the rates of the New York and Queens Electric Light and Power Company and of the Queens Borough Gas and Electric Company for electricity, respectively 12 cents and 13 cents per kilowatt hour, should be reduced. These cases are all considered in detail among the list of formal cases included in this chapter.

The number of gas companies doing business during the year 1916 in the First District was 16; of gas and electric corporations, 3; of electric light and power companies, 10; of electric

conduit companies, 2, and of steam companies, 1, making a total of 32 companies engaged in furnishing light, heat and power.

The total for 1916 shows an addition of one company over 1915. The outstanding stocks and bonds, or the capitalization of these companies, amounted to \$435,559,129.

When the Commission was organized in 1907, the total number of such companies was 26, and their combined capitalization \$347,751,784. The relative capitalization of the different classes of companies for the years 1907 and 1916 is shown in the following table:

	1907	1916
Gas companies .....	\$209,588,800	\$248,552,522
Gas-electric companies .....	5,376,500	5,745,000
Electric light and power companies .....	132,786,484	154,864,651
Electric conduit companies .....		18,302,000
Steam companies .....		8,094,956

The total increase in capitalization figures for the year was \$23,956,323, of which \$23,680,322 was represented by accretions to capital of the gas companies.

During 1915, the last year for which reports are available, the gas companies in the First District sold 42,539,668,000 cubic feet of gas and received therefor \$34,768,078. The electric companies sold 727,004,884 kilowatt hours of electric current and received therefor \$34,936,019. Sales of gas fell off 2 per cent from the figures of the preceding year, while the sales of electric current increased 5.73 per cent. The following table gives a summary of the operations of gas and electric companies for the years 1908 to 1915, inclusive:

COMPARATIVE SUMMARY OF GAS AND ELECTRIC COMPANIES FOR THE YEARS ENDED DECEMBER 31, 1908-1915  
 (Intercompany sales for redistribution eliminated. Data applicable to a single date refer to the close of the year. For further explanations see Statistics of Light, Heat and Power Companies, constituting Vol. III of the Annual Report.)

# GAS SUPPLY

	1908	1909	1910	1911	1912	1913	1914	1915
Number of employees.....	7,708	8,764	10,051	11,440	11,463	11,051	10,848	10,371
Total salaries and wages.....	\$6,338,947	\$6,872,791	\$7,864,468	\$8,972,830	\$9,909,983	\$9,848,454	\$9,608,836	\$9,351,406
Number of consumers.....	1,086,486	1,165,768	1,236,062	1,286,717	1,323,074	1,371,118	1,399,701	1,439,378
Miles of main.....	3,431	3,537	3,642	3,760	3,863	3,994	4,070	4,145
Manufacturing capacity (M cu ft.).....	227,828	226,700	229,450	244,700	264,700	256,700	256,250	256,180
Gas manufactured (M cu ft.).....	36,511,025	39,415,444	41,904,066	43,293,986	45,397,728	45,671,856	47,051,661	45,668,377
Average per day.....	99,766	107,988	114,806	118,614	124,038	125,128	128,909	125,119
Gas distributed (M cu ft.).....	34,290,407	36,698,148	39,168,401	40,368,354	42,138,516	42,731,869	43,726,927	42,539,668
Increase per cent.....	7.02	31.863	7.75	3.15	4.39	1.41	2.33	D 2.73
Revenue from gas sales to public.....	\$32,408,498	\$39,833,599	\$31,863,765	\$32,844,656	\$34,319,912	\$34,835,211	\$35,685,444	\$34,768,073
Average price per M cu ft.....	94.514	81.294	81.354	81.364	81.454	81.524	81.614	81.734
Operating costs - net.....	\$16,889,354	\$15,711,706	\$16,586,126	\$17,294,177	\$19,126,314	\$19,893,228	\$21,018,320	\$19,238,456
Total revenue deductions.....	28,158,385	19,269,314	20,492,154	21,432,094	23,283,796	24,326,847	25,488,695	24,239,967
Operating income.....	4,824,144	10,564,285	11,371,601	11,412,561	11,036,116	10,508,364	10,186,750	10,528,111

# ELECTRICITY SUPPLY

Number of employees.....	5,579	6,678	7,320	8,320	9,074	9,653	9,285	10,144
Total salaries and wages.....	\$4,518,044	\$5,235,405	\$5,856,837	\$6,877,846	\$7,757,291	\$8,376,708	\$8,905,006	\$9,039,717
Number of consumers.....	108,732	127,762	157,096	190,580	223,981	235,873	265,254	306,217
Connected load (kw.).....	213,685	540,101	610,386	695,630	788,167	835,272	924,476	1,047,518
Generating capacity (kw.).....	452,235,409	224,527	246,442	292,662	346,242	388,612	435,112	493,462
Kilowatt hours generated.....	51,484	472,559,920	525,165,353	593,153,865	707,058,865	877,539,898	917,977,516	989,359,588
Average per hour.....	51,484	53,645	59,950	67,940	80,494	100,176	104,792	112,934
Kilowatt hours sold to public.....	310,376,762	323,451,801	360,341,589	406,931,943	495,057,370	651,235,101	687,582,209	727,004,884
Increase per cent.....	4.21	11.41	12.93	12.66	17.58	24.58	5.58	6.73
Revenue from sales to public.....	\$21,397,525	\$23,043,606	\$25,382,824	\$27,737,104	\$29,990,908	\$32,807,660	\$34,878,022	\$34,636,019
Revenue deductions.....	13,025,657	13,819,705	15,074,944	12,927,858	14,650,578	16,365,026	17,655,338	19,300,896
Operating income.....	8,371,868	9,223,901	10,307,879	14,809,245	15,340,330	16,532,634	17,222,684	15,335,123

# GAS AND ELECTRICAL COMPANIES COMBINED

Gross income applicable to corporate and leased properties.....	\$10,855,954	\$26,393,405	\$28,764,341	\$33,530,281	\$34,138,732	\$34,898,894	\$36,922,890	\$36,089,554
Interest, rent, etc.....	10,691,658	9,558,029	9,245,004	10,815,263	11,072,330	12,065,249	11,657,724	12,542,680
Net corporate income.....	7,164,296	16,835,376	19,519,336	22,715,018	23,066,402	22,833,635	25,265,166	23,546,874
Dividends.....	7,462,706	8,416,651	9,588,351	11,267,093	11,890,180	11,378,911	12,556,486	14,197,800
Accumulated surplus.....	23,055,817	30,242,805	40,452,006	46,171,397	50,855,621	56,783,410	60,938,642	67,790,494

1. e., operating expenses (exclusive of depreciation) less revenue from intercompany sales, residuals, and miscellaneous sources.

2. Operating expenses, uncollectible bills and taxes, less all revenue not contributed by consumers.

3. Includes railway load not previously included.

## INFORMAL COMPLAINTS

Each year the Commission receives many informal complaints in addition to the formal cases affecting gas and electric companies, which are later noted in this chapter. These complaints are handled in the same manner as the informal complaints against transportation companies. A copy of each complaint is sent to the company affected, with request for an answer. In many cases the satisfaction of complaints is effected by correspondence, but in cases where such a result is not reached hearings are held. Classified under the informal complaints are applications from consumers of gas and electricity for tests of meters. The Commission during the year 1916 received 2823 applications from consumers of gas and electricity, a slight increase over the previous year.

Included in the number were 2823 applications for tests of gas meters, 771 applications for tests of electric meters and 225 informal complaints in relation to service conditions not involving tests of meters. Of the 2823 applications for tests of gas meters received from consumers, the Commission tested 2553; of the 771 applications for tests of electric meters, the Commission tested 478; of the 733 informal complaints handled during the year practically all were closed by the end of 1916. A summary of the informal complaints will be found in Appendix C of this volume.

The informal complaints against gas and electric companies handled by the Commission, covered a wide range of subjects. A classification of these complaints shows that there were 100 cases of over-indexing, 44 of incorrect billing, 88 of failure to supply electricity, 44 of failure to supply gas, 35 of inadequate supply of service, 71 of bills rendered for electricity, 14 of bills rendered for gas, 14 of leakage of gas, 16 of leaking meters, 9 of estimated bills rendered, 24 of interruption of service, 9 of failure to return deposit, 9 of failure to set prepayment meters, 35 of discontinuance of service, 13 of shortage in prepayment meters, 4 in which over-payments were allowed as a result of error by the Commission, 22 of deposits required, 4 of failure to exchange meters, 5 of charges for installing service, 2 of complaints against meters, 55 of grounds in house wiring and 28 relating

ranges. Wherever it has been possible, the Commission has adjusted these complaints as between the consumer and the company.

During the year 1916, in addition to the work of testing electric meters upon complaint of consumers, the Commission instituted investigations for the purpose of ascertaining whether or not there were "grounds" in consumers' house wiring. The results of these investigations and studies disclosed the fact that a considerable percentage of the complaints as to high bills for electricity were apparently due to defective house wiring. In each case where electric wires were found to be "grounded" the consumer was notified.

Under the Public Service Commissions Law gas companies are prohibited from setting gas meters which have not previously been tested for accuracy and sealed as accurate by the Commission. In accordance with this provision, the Commission during the year 1916 tested a total of 368,994 gas meters. Of this number, 63,737 were new meters, 302,704 were repaired and removed meters and 2553 were tested upon complaint of consumers. Although the law allows an error of 2 per cent in the case of gas meters tested upon complaint of consumers, it has been deemed advisable by the Commission not to seal any meter, new, repaired or removed, as accurate which registers on test over exact accuracy. Tables included in this chapter show the results of tests of gas and electric meters following complaints of consumers. Of the 2553 gas meters tested by the Commission upon complaint of consumers, 1068, or 41.8 per cent, were more than 2 per cent fast, while in the case of electric meters tested upon complaint of consumers, 17, or 3.5 per cent, were outside the variation allowed by law. Regarding the test from the point of under-registration, the Commission's tests of gas meters upon complaint of consumers show that of the 2553 meters tested 241, or 9.4 per cent, were more than 2 per cent slow. In the test of electric meters by the Commission, out of 478 tested, 4 or 0.8 per cent, were more than 4 per cent slow.

Since the creation of the Commission in July, 1907, it has tested a grand total of 3,457,149 gas meters and 5469 electric meters.

## GAS PRESSURE REGULATIONS

The work of checking the pressures of illuminating gas furnished in the First District under the regulations promulgated by the Commission three years ago was continued during the year 1916. The pressure variations are being considerably reduced from year to year in the territories supplied by most of the companies. Detailed pressure surveys have been made in all districts in which pressure conditions were below the average, and in districts from which complaints regarding pressure have been received. The surveys made by the Commission's inspectors involved the taking of more than 3500 twenty-four-hour-pressure charts at 375 different points in the localities served by fourteen of the twenty-one gas companies operating within the city. The data secured, supplemented by periodic examinations of the charts prepared by the companies from permanent recording gauges located in accordance with the terms of the pressure orders of the Commission, show, generally, that gas pressure conditions are very satisfactory.

It was found in one or two instances that smaller companies were not always meeting fully the requirements of the pressure orders. When such failures were called to the attention of the companies, immediate steps were taken by them to enlarge their transmission and distribution systems, and to so adjust their modes of operation as to meet fully the Commission's requirements. In general, these few violations were found to be technical in character.

It is worthy of note in this connection that the Commission's orders as to pressures are more stringent than any in force elsewhere in the United States, and there has been marked improvement in New York since the orders became effective, until the point has been reached where every consumer is practically assured an adequate and uniform gas supply at all times.

Other investigations showed that the gas companies were complying substantially with the Commission's orders requiring them to discontinue the use of all gas meters which have been untested by the Commission for more than seven years. A few violations of this order were discovered, but upon checking up they were found to be due to clerical errors.

reference is made elsewhere in this chapter, in connection with Case No. 2066, to the investigation undertaken by the Commission relative to gas standards and to determine whether the existing candle power basis of rating gas should be supplemented or superseded by a heating value standard. The Commission's Chief Gas Engineer has during the year been in charge of preliminary work of arranging the necessary tests which will fully under way during 1917. The Engineer also has been engaged in the work of analyzing data as to gas standards obtained from all parts of the United States.

Early in January the Commission instituted an inquiry relative to the prices paid for gas oil by the various companies operating in the First District. The cost of gas oil is one of the important factors, if not the most important factor, to be considered in the determination of what is a fair price to be charged for gas. In the rate cases before the Commission, testimony introduced has been to the effect that the cost of such oil has been subject to considerable fluctuations, and the reasonableness of such prices has sometimes been subject to question. There has been compiled and tabulated by the Chief Gas Engineer a considerable amount of information relative to contract prices for gas oil during the last ten years by the several companies operating within the jurisdiction of the Commission, and in addition oil contracts entered into by gas companies in other parts of the State were tabulated and analyzed in an effort to determine the reason for the fluctuations in prices at various times, and for the different prices paid for gas oil by the different companies at the same time.

As a result of its investigation the Commission through its Secretary, on January 4, 1916, communicated with Thomas W. Gregory, Attorney General of the United States, calling to his attention certain matters produced in the testimony of the investigation. The letter stated that the facts brought out showed apparent discrimination in the price of gas oil furnished to different gas companies in the First District. Tabulations were enclosed to show that the contract price within a six month's period in 1914 ranged from 3 to 4½ cents per gallon as between different companies, despite the fact that the specifications

as to specific gravity were practically the same. The attention of the Attorney General was called to the fact that apparently two of the foremost companies, the Brooklyn Union Gas Company and the Consolidated Gas Company, had much more favorable contracts at lower prices than had the other companies. The Attorney General was also asked to investigate as to whether the directorates of these gas companies and one of the large oil companies were interlocking. Other facts brought out at the hearing, relative to alleged discriminatory prices were also submitted to the Attorney General. Later the Commission was informed by Attorney General Gregory's office that the matter had been referred to the Federal Trade Commission for investigation.

#### RESULTS OF METER TESTS

The following tables give the results of tests of gas and electric meters made during the year:

Month	Kind of meters	SIZE												Total	Grand	
		3 ft.	5 ft.	10	20	30	45	60	80	100	150	200	250			300
Jan.	Complaint.....	65	223	33	7	2	2	1	...	2	...	2	...	...	337	39,512
	New.....	252	6,948	233	53	90	71	3	...	30	...	5	...	...	7,085	
	Repaired and removed.....	13,636	14,351	1,272	478	222	182	96	...	111	13	12	6	7	31,490	
Feb.	Complaint.....	81	263	29	7	5	1	2	...	4	...	...	...	...	392	31,610
	New.....	298	4,034	260	10	7	60	...	...	18	...	2	...	...	4,855	
	Repaired and removed.....	10,874	13,162	1,246	286	99	138	...	...	54	12	11	3	7	26,363	
March.	Complaint.....	43	191	25	7	3	5	2	...	3	...	...	...	...	270	32,136
	New.....	127	2,946	34	42	19	28	2	...	7	...	1	...	...	3,206	
	Repaired and removed.....	11,442	15,209	1,227	407	120	89	71	...	50	11	17	2	6	28,651	
April.	Complaint.....	52	153	25	8	1	4	2	...	2	1	...	...	...	248	28,258
	New.....	121	3,213	20	29	10	27	2	...	8	3	9	...	1	3,443	
	Repaired and removed.....	11,407	11,075	1,184	595	103	79	50	...	66	19	12	3	4	24,567	
May.	Complaint.....	47	167	16	3	2	5	3	...	2	...	...	...	...	245	29,920
	New.....	242	4,296	58	95	51	32	2	...	10	...	...	...	...	4,786	
	Repaired and removed.....	9,608	13,529	957	379	121	89	36	...	46	17	10	2	5	24,899	
June.	Complaint.....	31	99	9	4	1	...	...	...	2	...	...	...	...	146	30,914
	New.....	194	4,820	50	34	19	30	12	...	8	...	2	...	...	5,169	
	Repaired and removed.....	10,319	13,241	1,292	380	187	126	61	1	61	9	6	4	5	25,999	
July.	Complaint.....	28	86	5	2	2	4	...	...	...	...	...	...	...	127	26,949
	New.....	220	5,859	...	24	3	...	...	...	7	...	5	...	...	6,180	
	Repaired and removed.....	8,253	11,457	547	196	76	70	34	1	43	11	11	...	4	20,662	
Aug.	Complaint.....	34	72	5	4	...	1	1	...	...	...	...	...	...	117	31,481
	New.....	75	4,729	19	34	38	11	...	...	1	...	...	...	...	4,912	
	Repaired and removed.....	9,783	14,964	1,030	291	155	96	51	...	37	16	8	1	6	26,452	
Sept.	Complaint.....	23	76	3	5	...	2	...	...	...	...	...	...	...	110	31,221
	New.....	181	5,900	243	26	24	23	5	...	7	...	...	...	...	6,421	
	Repaired and removed.....	9,215	13,866	936	384	134	53	38	...	36	6	11	1	7	24,660	

TABLE A — GAS METERS TESTED, 1916 — (Concluded)

MONTH	Kind of meters	SIZE													Total	Grand total
		3 ft.	5 ft.	10	20	30	45	60	80	100	150	200	250	300		
Oct.	Complaint.....	27	80	5	1	...	3	1	...	...	...	...	...	...	117	32,984
	New.....	...	7,014	114	66	25	30	...	...	...	...	...	...	...	7,262	
	Repaired and removed...	9,160	15,048	899	245	79	79	39	...	33	3	6	2	12	25,605	
Nov.	Complaint.....	41	39	7	6	...	2	...	...	1	1	...	...	...	197	28,101
	New.....	2	5,482	252	49	32	53	12	...	6	...	2	...	...	5,870	
	Repaired and removed...	6,984	13,738	853	245	106	60	37	1	43	9	5	3	...	22,034	
Dec.	Complaint.....	36	174	11	8	4	1	...	...	2	1	...	...	...	237	25,908
	New.....	158	3,477	193	50	42	28	18	...	3	...	...	...	...	3,969	
	Repaired and removed...	7,548	12,567	918	260	134	86	34	...	34	9	6	1	5	21,702	
	Totals.....	122,647	222,232	14,010	4,720	1,912	1,590	657	3	841	150	153	29	70	368,994	368,994

TABLE B—GAS METERS TESTED ON COMPLAINT, 1916

COMPANIES	Total number tested	Over 2 per cent fast	Over 2 per cent slow	Between 2 per cent fast and 2 per cent slow	Per cent of meters over 2 per cent fast	Per cent of meters over 2 per cent slow
olidated Gas Co. ....	512	173	72	267	33.8	14.1
Amsterdam Gas Co. ....	109	21	14	74	19.2	12.8
ard Gas Light Co. ....	70	21	7	42	30.0	10.0
York Mutual Gas Light Co. ....	98	45	4	49	45.8	4.0
River Gas Co. ....	17	5	4	8	29.4	47.1
ral Union Gas Co. ....	84	50	5	29	59.4	5.9
hern Union Gas Co. ....	61	27	5	29	44.3	8.2
oklyn Union Gas Co. ....	1,050	479	91	480	45.5	8.6
ush Gas Co. ....	73	38	4	31	52.0	5.5
own Gas Co. ....	92	37	4	51	40.2	4.3
ica Gas Light Co. ....	5	1	1	3	20.0	20.0
mond Hill and Queens						
ounty Gas Light Co. ....	16	8	3	5	50.0	18.7
haven Gas Light Co. ....	22	10	1	11	45.5	4.5
s County Lighting Co. ....	169	60	7	102	55.6	4.1
oklyn Borough Gas Co. ....	89	43	12	34	48.3	13.5
York and Queens Gas Co. ....	20	11	2	7	55.0	10.0
ns Borough Gas and Electric						
	21	11	2	8	52.3	9.5
York and Richmond Gas						
	12	7		5	58.2	0.0
x Gas and Electric Co. ....	32	21	3	8	65.6	9.4
hester Lighting Co. ....					0.0	0.0
Totals .....	2,552	1,068	241	1,243	41.9	9.4

RE.— There was one D. R. meter, and it is not accounted for in total of 2,552.

TABLE C—NEW METERS TESTED, 1916

MONTH	Total correct	Total rejected	Grand total	Per cent correct	Per cent rejected
ary .....	7,542	143	7,685	98.1	1.9
ary .....	4,713	142	4,855	98.1	2.0
h. ....	3,144	62	3,206	98.1	1.9
.....	3,396	47	3,443	98.6	1.4
.....	4,748	40	4,788	99.2	0.8
.....	5,143	26	5,169	99.5	0.5
.....	6,090	70	6,160	98.9	1.1
st. ....	4,727	185	4,912	96.1	3.9
mber. ....	6,282	138	6,420	97.8	2.2
per. ....	7,118	144	7,262	98.0	2.0
mber. ....	5,744	126	5,870	97.9	2.1
mber. ....	3,780	89	3,869	97.8	2.2
Totals .....	62,425	1,212	63,737	98.1	1.9

TABLE D—REPAIRED AND REMOVED METERS TESTED, 1916

MONTH	Total correct	Total rejected	Grand total	Per cent correct	Per cent rejected
ary .....	30,856	634	31,490	98.0	2.0
ary .....	25,949	414	26,363	98.0	2.0
h. ....	28,384	267	28,651	99.1	0.9
.....	24,329	238	24,567	99.1	0.9
.....	24,676	213	24,889	99.2	0.8
.....	25,393	206	25,599	99.2	0.8
.....	20,351	311	20,662	98.5	1.5
st. ....	25,982	470	26,452	99.0	1.0
mber. ....	24,346	344	24,690	98.1	1.9
per. ....	25,194	411	25,605	98.4	1.6
mber. ....	21,766	268	22,034	98.7	1.3
mber. ....	21,530	172	21,702	99.2	0.8
Totals .....	298,756	3,948	302,704	98.7	1.3

TABLE E — COMPLAINT METERS

MONTH	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
January		635	569	533	567	498	407	318	345	337
February		978	384	720	669	570	426	379	468	392
March		1,192	488	528	541	423	368	343	308	279
April		651	397	300	215	307	228	299	175	248
May		668	301	253	319	294	194	246	171	245
June		547	222	233	244	216	184	184	122	146
July	197	337	184	162	177	137	122	126	121	127
August	83	241	177	179	209	133	122	107	118	117
September	181	350	191	184	154	164	121	131	91	110
October	268	549	316	373	324	267	183	164	162	117
November	328	526	421	463	452	356	325	261	231	197
December	505	772	429	500	554	465	384	322	266	237
Totals	1,562	7,346	4,079	4,428	4,425	3,830	3,084	2,890	2,598	2,552

TABLE F — NEW METERS

MONTH	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
January		6,164	4,078	4,638	7,918	9,507	8,254	4,497	2,651	7,685
February		2,967	2,189	3,672	6,740	4,606	5,462	4,436	2,365	4,855
March		3,919	4,109	4,346	8,865	5,847	3,931	3,192	3,865	3,206
April		7,488	3,653	4,794	6,944	6,559	5,617	3,259	2,500	3,443
May		6,016	2,772	4,111	5,484	6,192	6,237	3,132	2,797	4,786
June		4,578	5,700	5,512	3,461	4,402	5,592	4,270	3,942	5,169
July	2,750	2,487	6,827	4,928	2,260	5,057	5,421	5,249	2,070	6,160
August	6,657	4,591	4,476	4,694	2,900	3,773	5,014	3,843	1,114	4,912
September	8,850	3,941	5,303	5,433	4,805	7,168	7,519	7,584	6,214	6,420
October	10,817	6,594	5,602	11,766	7,346	11,215	9,807	8,583	8,449	7,262
November	7,714	7,935	5,633	9,158	10,377	5,622	6,212	5,195	6,175	5,870
December	7,439	6,734	5,597	7,051	11,289	7,134	6,398	6,517	7,858	3,969
Totals	44,227	63,414	55,939	70,103	78,389	77,082	75,464	59,757	50,000	63,737

TABLE G — REPAIRED AND REMOVED METERS, 1916

MONTH	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
January		22,062	29,480	20,276	26,331	29,952	28,600	27,419	25,633	31,490
February		20,642	26,069	18,562	23,744	26,734	24,757	23,879	26,517	26,363
March		23,187	30,631	25,171	30,416	28,710	27,854	26,916	32,653	28,631
April		22,640	27,197	26,423	27,922	32,106	26,676	26,152	27,440	24,567
May		22,617	24,576	23,832	27,797	26,833	22,799	24,106	30,603	24,890
June		21,349	24,632	22,326	26,146	25,405	24,032	23,325	27,018	25,599
July	3,086	21,752	24,349	20,242	24,402	23,675	30,945	20,313	26,808	20,667
August	11,861	20,901	25,639	23,394	28,200	24,603	19,203	21,430	31,848	26,452
September	12,210	21,654	23,715	22,291	28,291	24,245	23,825	25,371	31,405	24,690
October	17,621	23,739	21,620	20,413	26,951	26,468	23,798	26,015	22,188	23,605
November	17,333	21,665	18,629	24,578	26,718	24,974	20,249	21,850	20,670	22,034
December	19,946	27,078	21,438	26,578	29,493	26,303	26,658	22,951	28,020	21,702
Totals	82,057	269,286	297,775	274,086	326,420	320,008	289,396	289,727	330,803	302,794

TABLE H — GAS METERS TESTED ON COMPLAINT, 1916

COMPANIES	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Consolidated Gas Co.	92	68	67	59	38	29	23	23	10	18	36	48	512
New Amsterdam Gas Co.	13	26	12	11	10	7	6	2	2	2	9	6	109
Standard Gas Light Co.	8	11	10	12	5	3	5	2	2	1	6	5	68
New York Mutual Gas Light Co.	16	12	10	13	18	3	2	2	2	3	3	8	98
Central Union Gas Co.	12	17	6	9	8	6	3	1	4	5	6	7	84
Northern Union Gas Co.	12	10	7	5	2	2	2	2	2	4	4	9	60
Bronx Gas and Electric Co.	2	4	1	3	5	4	1	4	2	3	5	1	35
Westchester Lighting Co.	125	156	107	96	134	58	54	42	50	45	87	97	1,060
Brooklyn Union Gas Co.	8	13	19	12	5	4	4	2	2	1	5	2	73
Flatbush Gas Co.	13	16	9	5	4	3	3	7	4	11	7	10	92
Kings County Lighting Co.	20	28	21	12	11	13	12	12	10	7	11	12	169
Brooklyn Borough Gas Co.	9	15	5	7	2	9	2	8	4	11	5	12	89
Queens Borough Gas and Electric Co.	3	1	1	1	1	2	2	5	5	2	2	1	20
Jamaica Gas Light Co.	1	1	1	1	1	1	1	1	2	2	2	1	5
Woodhaven Gas Light Co.	1	5	4	1	1	1	2	2	2	0	4	5	24
Richmond, Hill and Queens County Gas Light Co.	3	3	1	2	1	3	2	2	2	2	1	1	16
New York and Queens Gas Co.	3	2	1	1	1	1	2	1	2	2	3	3	20
East River Gas Co.	1	3	1	1	1	1	3	1	1	1	2	9	17
New York and Richmond Gas Co.	1	1	1	2	1	1	1	1	1	1	1	1	12
<b>Totals</b>	<b>337</b>	<b>392</b>	<b>279</b>	<b>248</b>	<b>245</b>	<b>146</b>	<b>127</b>	<b>117</b>	<b>110</b>	<b>117</b>	<b>197</b>	<b>237</b>	<b>2,553</b>

One D. R. meter is included in this total.

TABLE I — GAS METERS TESTED ON COMPLAINT, 1916

LENGTH OF SERVICE	O. K.	Fast	Slow	Total	O. K. in per cent of meters tested	Fast in per cent of meters tested	Slow in per cent of meters tested	PERCENTAGE		Average per cent of fast meters	Average per cent of slow meters	Average per cent of all meters tested
								Fast	Slow			
1 year or less.....	89	305	172	566	15.7	53.9	30.4	748.13	317.92	2.45	1.85	1.32
1 to 2 years.....	74	308	158	540	13.7	57.0	29.3	748.29	329.40	2.43	2.08	1.38
2 to 3 years.....	39	215	127	381	10.1	56.5	33.4	598.21	315.60	2.78	2.15	1.57
3 to 4 years.....	32	182	90	304	10.5	59.9	29.6	631.38	188.13	3.48	2.09	2.07
4 to 5 years.....	30	155	119	304	9.9	51.0	39.1	497.30	252.17	3.21	2.12	1.63
5 to 6 years.....	23	140	68	231	10.0	60.6	29.4	498.28	167.59	3.56	2.45	2.16
6 to 7 years.....	13	161	31	205	6.3	78.6	15.1	688.09	83.56	4.27	2.69	3.36
Unknown.....	0	13	8	21	6.0	61.9	38.1	64.94	11.93	4.23	1.49	2.61
Totals.....	300	1,479	773	2,552	11.7	58.0	30.3	4,465.62	1,686.30	3.02	2.18	1.83

NOTE.— 1068 of the fast meters tested, or 41.8 per cent, were over 2 per cent fast; 241 of the slow meters tested, or 9.4 per cent, were over 2 per cent slow. One meter was a D. R., and is not accounted for in total of 2552.

J—TABULATION SHOWING NUMBER OF GAS METERS, GROUPED ACCORDING TO YEARS SINCE TESTED AND SEALED BY THE COMMISSION, IN PREMISES WHERE PRESSURE TESTS WERE MADE DURING THE YEAR ENDED DECEMBER 31, 1916

COMPANY REFERENCE NUMBER	YEARS SINCE TESTED BY THE COMMISSION								Total
	Less than 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	5 to 6 years	6 to 7 years	More than 7 years	
.....	1	3	4	3	6	.....	2	.....	19
.....	8	5	2	2	5	.....	1	.....	25
.....	32	22	12	11	6	7	6	6	102
.....	12	30	6	12	42	4	2	.....	108
.....	22	14	14	4	20	8	5	.....	87
.....	8	9	3	1	2	4	3	.....	30
.....	9	4	8	5	2	1	2	.....	31
.....	4	4	2	3	3	.....	.....	.....	16
.....	7	6	7	8	6	8	4	.....	46
.....	2	3	1	.....	4	.....	.....	.....	10
.....	45	28	18	25	13	7	4	.....	140
.....	12	9	9	13	3	4	6	1	57
.....	19	13	12	19	11	5	4	5	88
Totals.....	181	150	98	106	123	50	39	12	759

K.—Company reference numbers:

- Company  
 Standard Gas Light Company of the City of New York.  
 New Amsterdam Gas Company.  
 New York and Queens Gas Company.  
 Northern Union Gas Company.  
 Central Union Gas Company.  
 The Brooklyn Union Gas Company.  
 Bronx Gas and Electric Company.  
 Westchester Lighting Company.  
 The Flatbush Gas Company.  
 Queens Borough Gas and Electric Company.  
 Consolidated Gas Company of New York.  
 Brooklyn Borough Gas Company.  
 Kings County Lighting Company.

K—ANALYSIS OF RESULTS OF GAS PRESSURE TESTS MADE BY THE COMMISSION DURING THE YEARS 1913, 1914, 1915 AND 1916

COMPANY REFERENCE NUMBER	Year	Number of gauge locations	Number of charts taken	Average maximum pressure	Average minimum pressure	Average daily pressure variation	Average maximum instantaneous pressure variation	Average maximum pulsating pressure variation
.....	1913	.....	.....	.....	.....	.....	.....	.....
.....	1914	.....	.....	.....	.....	.....	.....	.....
.....	1915	.....	.....	.....	.....	.....	.....	.....
.....	1916	9	68	36.9	30.3	6.6	1.2	1.4
.....	1913	.....	.....	.....	.....	.....	.....	.....
.....	1914	.....	.....	.....	.....	.....	.....	.....
.....	1915	1	2	40.0	34.0	6.0	1.0	1.0
.....	1916	.....	.....	.....	.....	.....	.....	.....
.....	1913	.....	.....	.....	.....	.....	.....	.....
.....	1914	.....	.....	.....	.....	.....	.....	.....
.....	1915	.....	.....	.....	.....	.....	.....	.....
.....	1916	5	38	42.8	33.6	9.2	2.0	2.3
.....	1913	22	205	41.5	31.5	10.0	3.3	2.1
.....	1914	5	20	44.4	33.6	10.8	2.3	2.8
.....	1915	.....	.....	.....	.....	.....	.....	.....
.....	1916	.....	.....	.....	.....	.....	.....	.....
.....	1913	.....	.....	.....	.....	.....	.....	.....
.....	1914	.....	.....	.....	.....	.....	.....	.....
.....	1915	31	216	44.6	26.9	17.7	4.9	1.5
.....	1916	.....	.....	.....	.....	.....	.....	.....
.....	1913	.....	.....	.....	.....	.....	.....	.....
.....	1914	13	98	41.9	33.4	8.5	1.6	0.4
.....	1915	8	59	45.0	31.9	13.1	1.6	0.6
.....	1916	.....	.....	.....	.....	.....	.....	.....

TABLE K — (Concluded)

COMPANY REFERENCE NUMBER	Year	Number of gauge locations	Number of charts taken	Average maxi- mum pressure	Average minimum pressure	Average daily pressure variation	Average maximum instanta- neous pressure variation
47.....	1913	.....	.....	.....	.....	.....	.....
	1914	.....	.....	.....	.....	.....	.....
	1915	7	53	29.5	23.2	6.3	3.8
	1916	.....	.....	.....	.....	.....	.....
48.....	1913	.....	.....	.....	.....	.....	.....
	1914	30	249	52.7	26.5	26.2	7.2
	1915	34	250	47.2	23.8	18.4	3.1
	1916	86	1,078	50.7	30.0	20.7	3.0
49.....	1913	3	11	42.0	33.6	8.4	1.7
	1914	6	50	42.5	33.7	8.8	2.8
	1915	.....	.....	.....	.....	.....	.....
	1916	.....	.....	.....	.....	.....	.....
50.....	1913	2	23	41.1	28.4	12.7	4.7
	1914	15	143	41.0	29.5	11.5	2.3
	1915	.....	.....	.....	.....	.....	.....
	1916	1	2	42.5	37.0	5.5	.....
58.....	1913	.....	.....	.....	.....	.....	.....
	1914	9	101	39.3	29.7	9.6	2.2
	1915	.....	.....	.....	.....	.....	.....
	1916	31	247	36.1	27.5	8.6	1.6
59.....	1913	.....	.....	.....	.....	.....	.....
	1914	.....	.....	.....	.....	.....	.....
	1915	16	142	33.6	24.2	9.4	2.7
	1916	27	212	32.9	25.5	7.4	1.4
64.....	1913	.....	.....	.....	.....	.....	.....
	1914	16	145	33.3	24.8	8.5	1.6
	1915	10	66	48.4	41.0	7.4	1.0
	1916	16	122	42.4	33.8	8.6	2.1
84.....	1913	.....	.....	.....	.....	.....	.....
	1914	16	145	33.3	24.8	8.5	1.6
	1915	10	57	35.3	24.6	10.7	2.6
	1916	20	165	34.3	25.6	8.7	1.8
85.....	1913	.....	.....	.....	.....	.....	.....
	1914	3	33	43.5	32.6	10.9	1.8
	1915	.....	.....	.....	.....	.....	.....
	1916	12	89	37.8	28.4	9.4	1.2
87.....	1913	.....	.....	.....	.....	.....	.....
	1914	19	160	41.9	31.2	10.7	3.0
	1915	20	160	41.8	35.8	6.0	1.2
	1916	17	131	41.8	35.8	6.0	1.6
90.....	1913	.....	.....	.....	.....	.....	.....
	1914	.....	.....	.....	.....	.....	.....
	1915	46	423	39.9	30.6	9.3	1.7
	1916	11	81	38.5	30.7	7.8	1.3
92.....	1913	.....	.....	.....	.....	.....	.....
	1914	.....	.....	.....	.....	.....	.....
	1915	2	12	32.4	22.4	10.0	.....
	1916	58	436	41.2	31.9	9.3	1.5
93.....	1913	.....	.....	.....	.....	.....	.....
	1914	2	18	43.5	25.4	18.1	4.2
	1915	17	205	45.2	28.4	16.8	3.3
	1916	47	442	50.4	34.1	16.3	1.9
94.....	1913	24	187	42.8	25.3	17.5	3.6
	1914	13	81	40.0	24.9	15.1	5.1
	1915	27	209	37.4	27.0	10.4	2.2
	1916	48	402	38.9	28.7	10.2	1.2
Totals.....	1913	52	431	42.0	28.6	13.4	3.5
	1914	142	1,171	42.7	28.7	14.0	3.5
	1915	229	1,863	41.4	29.2	12.2	2.6
	1916	388	3,513	43.8	30.4	13.4	2.0

NOTE. — All pressures are expressed in tenths inches water column. Since the records were attached to the house piping in most cases, the results tabulated above show variations of the variations at the head of the service because of the pressure drop in the house piping when gas is being used by the consumer.

TABLE L—ELECTRIC METERS TESTED ON COMPLAINT, 1916

MONTH	NUMBER TESTED			Number found creeping	PERCENTAGE		NUMBER FAST				NUMBER SLOW			
	Fast	Slow	Total		Fast	Slow	4-10%	10-20%	20-30%	Over 30%	4-10%	10-20%	20-30%	Over 30%
January.....	45	25	70	4	70.03	39.66	4	.....	.....	.....	2	.....	.....	.....
February.....	53	27	80	4	63.33	37.00	3	.....	.....	.....	.....	.....	.....	.....
March.....	55	36	90	2	79.87	32.75	3	.....	.....	.....	1	.....	.....	.....
April.....	37	21	58	2	97.84	19.69	2	.....	.....	.....	.....	.....	.....	.....
May.....	35	17	52	.....	49.38	19.03	.....	.....	.....	.....	.....	.....	.....	.....
June.....	31	9	40	6	59.29	12.53	.....	.....	.....	.....	.....	.....	.....	.....
July.....	10	3	13	.....	18.59	36.59	.....	.....	.....	.....	.....	.....	.....	.....
August.....	7	3	10	.....	9.44	2.50	.....	.....	.....	.....	.....	.....	.....	.....
September.....	4	4	8	.....	35.26	2.96	.....	.....	.....	.....	.....	.....	.....	.....
October.....	5	11	16	1	6.63	13.96	.....	.....	.....	.....	.....	.....	.....	.....
November.....	9	9	18	1	6.65	8.59	.....	.....	.....	.....	.....	.....	.....	.....
December.....	10	13	23	1	3.68	13.97	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	301	177	478	21	498.99	240.01	15	.....	.....	.....	3	.....	.....	1

TABLE L &amp; — ELECTRIC METERS TESTED ON COMPLAINT, 1916

MONTH	PERCENTAGE OF NUMBER TESTED		Per cent of number found creeping	AVERAGE PERCENTAGE		AVERAGE PER CENT FAST			AVERAGE PER CENT SLOW			
	Fast	Slow		Fast	Slow	4-10%	10-20%	20-30%	4-10%	10-20%	20-30%	Over 30%
January.....	64.3	35.7	100	1.55	1.58	5.20	.....	.....	6.60	.....	.....	.....
February.....	66.2	33.8	100	1.18	1.39	4.13	.....	.....	.....	.....	.....	.....
March.....	61.1	38.9	100	2.22	1.44	5.61	.....	.....	4.76	.....	.....	.....
April.....	63.8	36.2	100	3.4	2.64	5.40	.....	30.17	.....	.....	.....	.....
May.....	67.3	32.7	100	.....	1.41	.....	.....	.....	.....	.....	.....	.....
June.....	77.5	22.5	100	15.0	1.12	.....	.....	.....	.....	.....	.....	.....
July.....	76.9	23.1	100	.....	1.39	4.84	.....	.....	.....	.....	.....	.....
August.....	70.0	30.0	100	.....	12.19	5.53	.....	.....	.....	.....	.....	.....
September.....	50.0	50.0	100	.....	0.86	.....	.....	.....	.....	.....	.....	.....
October.....	31.2	68.8	100	.....	8.80	0.74	.....	33.24	.....	.....	.....	.....
November.....	50.0	50.0	100	6.2	1.32	.....	.....	.....	.....	.....	.....	.....
December.....	43.5	56.5	100	5.6	0.85	.....	.....	.....	.....	.....	.....	.....
				4.1	1.07	.....	.....	.....	.....	.....	.....	.....
Totals.....	60.1	39.9	100	4.4	1.35	5.12	.....	.....	5.68	.....	.....	33.75

TABLE M — ELECTRIC METERS TESTED ON COMPLAINT, 1916

COMPANIES	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
New York Edison Co.	34	36	38	32	26	30	4	3	3	7	7	11	231
Edison Electric Illuminating Co.	24	19	28	22	22	7	4	3	3	5	3	4	144
United Electric Light and Power Co.	5	8	4	2	...	...	3	1	...	3	3	5	34
Bronx Gas and Electric Co.	...	1	1	...	...	...	...	...	...	...	...	...	3
Queens Borough Gas and Electric Co.	...	...	2	...	...	2	...	...	1	...	1	...	7
Richmond Light and Railroad Co.	...	2	5	...	2	1	...	2	...	...	3	2	11
New York and Queens Electric Light and Power Co.	2	5	1	...	2	...	1	...	1	...	...	...	18
Westchester Lighting Co.	...	9	11	1	...	...	...	...	...	...	1	...	3
Flatbush Gas Company	5	...	...	1	...	...	...	...	...	...	...	...	27
<b>Totals</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>58</b>	<b>52</b>	<b>40</b>	<b>13</b>	<b>10</b>	<b>8</b>	<b>16</b>	<b>18</b>	<b>23</b>	<b>478</b>

## EXTENSIONS OF GAS MAINS

During the year there have been several cases before the Commission involving the reasonableness of the extension of gas mains beyond the one-hundred-foot limit to which the company is required to extend under the law. Many studies have been made of the facts involved when such complaints have been presented to the Commission, and estimates have been prepared showing the probable cost and the probable consumption which would result from the extension, if made, thus giving the Commission material for the consideration of the reasonableness of the complaint.

## FORMAL CASES — ELECTRIC COMPANIES

*Case No. 1395 — George Stadtlander and Others against the New York Edison Company.*—

*Case No. 1492 — Julius Ewoldt and Others against the New York Edison Company.*—

The history of these cases, resulting in lower rates for consumers in Manhattan and throughout the greater city of The Bronx, has been related in previous Annual Reports. In 1915 important reductions were ordered by the Commission and accepted by the company. On May 10, 1916, Commissioner Travis H. Whitney moved for a reopening of various features of the New York Edison case, which also involved the rates of the United Electric Light and Power Company, an allied company which serves a part of the territory of the former company.

Commissioner Whitney held his motion in abeyance, as he stated that Mayor John Purroy Mitchel of The City of New York contemplated the filing of a petition with the Commission in respect of these cases. On August 22 Milo R. Maltbie, Counselor at Law for the City of New York, filed with the Commission on behalf of the Mayor a petition asking for a rehearing.

The petition had particular reference to the provision in the order of the Commission adopted on March 16, 1915, that the rates remain in effect for a period of three years thereafter. The Mayor suggested that a further consideration of the case at the end of the three years would consume at least one or two more years, thereby leaving the rate in effect for a period of five years. He therefore requested a reopening of the proceeding.

and that the time during which the order should continue be lessened so as to extend from May 1, 1915, the date on which the order went into effect, to July 1, 1917. The petition made no specific request as to a possible reduction in the rate of 8 cents per kilowatt hour, the maximum fixed by the order of March 16.

At the meeting of the Commission on August 23, Commissioner Whitney revived his motion of May 10 and asked that a rehearing be held to cover all aspects of the case. The Commission set September 7 as the date upon which consideration would be given to the whole matter.

In connection with his motion, Commissioner Whitney placed in the record a statement in reference to the matter, noting that no valuation had been made of the property of the company in connection with the rate decision of March, 1915. He also pointed out that the Commission had directed its Electrical Engineer in February, 1916, to undertake an appraisal of properties of both the New York Edison Company and the United Electric Light and Power Company in order that the data might be ready for a reconsideration of the matter of the rates.

Commissioner Whitney's motion was unanimously adopted and a rehearing of the proceedings was ordered on September 7. The taking of testimony was adjourned to September 22 and several hearings were held thereafter at which various phases of the two cases were discussed. During the proceedings the question was raised as to the construction of the wording of the so-called three-year clause. This was considered at some length by the Commission in connection with the question of an appraisal.

Finally J. W. Lieb, Jr., Vice-President and General Manager of the New York Edison Company, took the stand and read into the record a statement outlining the position of the company. One paragraph in this statement was to the effect that, notwithstanding uncertainties of the business situation, the company was ready to make its customers participators in any prosperity which it might enjoy. He added that the company was prepared to consider a readjustment of its rate schedules as soon as experience of a reasonable term of operation with the present schedules, under normal conditions might indicate that further readjustments were practicable without seriously jeopardizing its

resources; and further that an appraisal of the company's property at the present time would be "unnecessary and undesirable" and very costly both to the company and to the public and possibly a factor that might postpone for several years readjustment of the rate schedules of the company. On behalf of the company he offered to confer with the Commission and with representatives of the City administration with a view to getting together on the matter of possible reductions in the company's rates.

Chairman Straus accepted Vice-President Lieb's suggestion for conferences and named Commissioner Hayward as the Commission's participant, while Chamberlain Maltbie was designated as participant on behalf of the City administration. Numerous conferences were held and as a result a plan was arranged, which was announced at a hearing on November 2, when Mr. Lieb read into the record a prepared statement announcing that the New York Edison Company and the United Electric Light and Power Company were prepared to make other reductions in their rates and to broaden the territory to which these reduced rates might apply. Under the order of March, 1915, certain territory in upper Manhattan and in The Bronx east of The Bronx river was excluded from participation in the rate reductions.

Mr. Lieb's proposition was that these territories enjoy the proposed reductions concurrently with the remainder of the territory in Manhattan and The Bronx served by the two companies; that the maximum rate both for light and power be reduced from 8 cents to  $7\frac{1}{2}$  cents per kilowatt hour, exclusive of the supply of lamps, to take effect January 1, 1917, and to continue until July 1, 1917; and that on July 1, 1917, the maximum rate be further reduced from  $7\frac{1}{2}$  cents to 7 cents per kilowatt hour. The company reserved the right to make these reductions if business warranted and to return to the old schedule if the business situation did not warrant the changes as proposed.

It was estimated that the saving effected to consumers by the changes in rates would amount for the whole period of 1917 to \$1,750,000. One of the prerequisites of this reduction was that an appraisal be not undertaken at that time because of the expense that would devolve upon the company.

The Commission took the offer under advisement and on November 16 heard objectors, including Frank R. Greene, representing the Electrical League of New York, and B. F. Marsh, representing the League for Municipal Ownership and Operation. He urged the Commission to make an appraisal, expressing the belief that an appraisal would produce a condition which might result in even a greater reduction in rates than that contemplated by the company.

The Commission, however, maintained that more would be gained for the public by an acceptance of the proposed reductions than by entering into an appraisal at that time. The Commission indicated that it would accept the offer and adjourned the hearing until January 4, 1917, at which time if the company put into effect its first proposed reduction in rates to  $7\frac{1}{2}$  cents per kilowatt hour it was provided that the hearing should again be adjourned until the first Monday of June, 1917, at which time the Commission would take under consideration the second proposed reduction to 7 cents per kilowatt hour.

On November 25 the two companies filed with the Commission amendments to their schedules providing for the new rates. The general rates of both companies are as follows:

for the first 900 kilowatt hours monthly consumption,	$7\frac{1}{2}$ cents
for the next 100 kilowatt hours monthly consumption,	7 cents
for the next 300 kilowatt hours monthly consumption,	6 cents
for the next 600 kilowatt hours monthly consumption,	5 cents
for the next 600 kilowatt hours monthly consumption,	$4\frac{1}{2}$ cents
for all excess over 2500 kw. hours monthly consumption,	$4\frac{1}{4}$ cents

*Case No. 1540—Edison Electric Illuminating Company of Brooklyn—Rates for Electric Current.*—This proceeding, begun in 1912 and reported in previous Annual Reports, was concluded in 1916. It was instituted upon the complaint of Albert Moritz and more than one hundred other consumers who asked a reduction in the rates charged for electric current by the company. The allegations were similar to those in the New York Edison case, namely, that the rates of the company were unjust to small consumers and showed discrimination generally.

Hearings which were begun before former Commissioner R. Maltbie were continued under Commissioner William Hayward. In 1913 the Commission began an appraisal of the company's property, which was completed in 1915, the most considerable piece of valuation work ever undertaken by it. The hearings were closed on April 28, 1916, and both sides were given permission to file briefs. The briefs were submitted and considered by the Commission and on October 27 an order was issued reducing the maximum rates charged by the company for current from 11 cents per kilowatt hour to 8 cents per kilowatt hour, with corresponding reductions in other rates.

The Commission at the same time adopted an opinion in the case, prepared by Commissioner William Hayward. Commissioner Straus was absent but concurred in the opinion and the order. The order directed that the new rates go into effect on December 1, 1916, and remain in effect for a period of one year thereafter. That, exclusive of the installation and renewal of electrical equipment, the rate schedules should be 8 cents for the first two hours of daily use of the maximum demand; 6 cents for the second four hours average daily use of the maximum demand, and 4 cents for the excess over four hours average daily use of the maximum demand. It was directed that, except when determined by the Commission, the maximum demand should be calculated as not in excess of 50 per cent of the consumers' connected load in the case of residential customers and not in excess of 50 per cent of the connected load for other consumers, providing, however, that the maximum demand should not in any case be assumed to be less than 500 watts.

The order also permitted the company to make a charge in excess of  $\frac{1}{2}$  cent per kilowatt hour for the supply of electrical equipment in connection with the supply of current for lighting purposes. The lamps under this provision of the order were to be incandescent lamps of standard efficiency and ratings or other lamps of greater efficiency and ratings. The company was not permitted to furnish carbon lamps. If lamps of less than 100-watt capacity were furnished, the company was allowed to make an extra charge therefor—not more than the additional cost of installation and renewal of such smaller lamps.

company was prohibited from making discounts under its minimum demand power rate and was directed to file on November 1 a schedule to carry into effect the provisions of the order

December 1 to submit for the approval of the Commission a complete tariff for all electrical service, effective December 1.

The company was given until November 10 to notify the Commission whether the order would be accepted and obeyed.

The order also had the effect of reducing retail power rates from a minimum of 10 cents per kilowatt hour to 8 cents per kilowatt

hour. Wholesale rates were left unchanged.

It was estimated by the Commission's experts that the provision for tungsten lamps would result in an increase in lighting efficiency

of from 200 to 250 per cent and the order generally in reducing bills of consumers having their bills reduced on the average by

25 to 30 per cent, and in retail power consumers having a reduction on the average of 6 per cent. Power consumers who

pay at the maximum rate, it was estimated, would have a reduction of approximately 20 per cent.

The company was permitted to retain its minimum charge of \$10 per month for service but it was stipulated that the charge

be credited against consumption of current where such consumption exceeds \$12 per year.

The discriminatory features in the rate schedule, applicable to small customers, especially one relating to discounts given

for increasing consumption were condemned in the opinion of Commissioner Hayward and the company was required

to eliminate such discrimination. The company claimed at the time a valuation of \$38,800,000 on its property exclusive of

depreciation and going value. The Commission allowed approximately \$22,000,000. At the new rates fixed, the Commission's

experts estimated that the company would have a return of 7 per cent.

The company claimed an allowance of 8 per cent on its investment.

The company claimed more than \$3,600,000 for going value which was not allowed. There was also rejected a claim for

more than \$4,000,000 for expenditures on account of property, including head construction and development expenses paid out of revenues

earned. The Commission also deducted from the company's valuation \$7,140,000 for depreciation.

The company was given several extensions of time within which to notify the Commission whether it would comply with the order, conferences being held in the meantime between Commissioner Travis H. Whitney and others representing the Commission and officials of the company, in order to determine if it might be possible to reach an agreement without material change of the order or the rates, and thus make the new rates effective at an early date and prevent a resort to litigation on the part of the company which might delay any reduction for a very long period.

On November 27 the company filed with the Commission a petition asking for a rehearing, stating through its Vice-President, Walter F. Wells, several objections to the findings of the Commission. In this petition it was set forth that the Commission had no authority to promulgate a schedule of rates, and that it was without authority of law to order the company to eliminate from its schedule rates based on quantity consumption, which the Commission in the opinion as adopted held to be discrimination.

The company further alleged that the rates fixed by the Commission were unjust, unreasonable and discriminatory and that the deduction made for depreciation was without warrant of law. It was further set forth that the Commission had erred in omitting the value of certain franchises; in fixing the value of the company's property, and in not including operating expenses to the amount of \$4,000,000.

It was also alleged that the Commission had made no allowance for going value and had excluded part of the value of the company's franchises. It was stated in the petition that the 7 per cent rate allowed by the Commission was unreasonably low and that the order of the Commission if placed in effect would be confiscatory and unconstitutional. Several tables of computations of going value were attached to the petition.

The Commission took the petition under consideration and on December 22 granted a rehearing. At the rehearing Mr. Moritz, one of the original complainants, was present, together with representatives of the company and a majority of the Commissioners. A statement was read into the record by Mr. Wells.

the Vice-President of the company, in which he called attention to various matters affecting the company's finances and indicating that the company could not accept the Commission's order without change. He referred to existing business conditions and stated that the company had recently been put to additional financial strain through the decreasing of the hours of labor and the raising of the rate of pay of certain classes of employes. Advances in the cost of operating supplies and other materials, including coal, were set forth as a reason for inability to comply with the order.

Mr. Wells further stated that the company would be under large expense in making new capital expenditures at an early date and was about to invest large sums which would not immediately bring to the company a fair return on the outlay. He stated also that it would prove difficult, in view of the valuation of the company's property which had been established by the Commission and the drastic reductions in the rates ordered, to enlist capital for necessary additions to the plant.

When the company had presented its case, Commissioner Hayward, stating that it was desirable to get the rate for electricity in Brooklyn reduced at the earliest date possible, moved a reconsideration of the old order and outlined certain changes which he proposed and which would not affect the clause relating to the minimum rate consumers.

The Commission declined to make allowance for some of the points set forth by the company's representatives but agreed to make certain changes in the rate schedule, substituting 5 cents for 4 cents which was the rate fixed in the original order for the excess over four hours average daily use of the maximum demand. In addition, the company was allowed to retain its existing practice in computing maximum demand.

These changes, embodied in a modified order, were at once adopted by a majority of the Commission, all members being present except Commissioner Charles S. Hervey. Objections were made by the complainant, Mr. Moritz, to the changes in the order, which were discussed by the Commission before being voted upon. Commissioner Hayward presented a supplemental opinion at a meeting of the Commission on December 27, explaining the vari-

ous changes in the rate and holding that the amendments to the original order were proper in view of all the facts brought out in the proceeding and the desirability of avoiding long and costly litigation. With the exception of Commissioner Hervey, all of the Commissioners concurred in the supplemental opinion. Commissioner Hervey stated that he believed that the original order should have been allowed to stand.

Unofficially, the Commission was notified that the order would be accepted and that it would be submitted shortly to a meeting of the board of directors of the Edison Company. On December 27 the Commission received notice that the amended order had been accepted and would be obeyed and that new rate schedules would be put into effect on January 1, 1917.

*Case No. 2163 — Queens Borough Gas and Electric Company — Hearing as to Rates for Electricity in the Fifth Ward, Borough of Queens.*—On November 29 the Commission adopted an order calling for an investigation into the rates charged for electricity by the Queens Borough Gas and Electric Company, which operates in the Fifth Ward of Queens and serves the section commonly known as the Rockaways. The company deals also in gas and its territory extends without the borders of the First District. The investigation undertaken by the Commission covered only the question of the electric rates of the company within the First District.

The company maintains a maximum rate of 13 cents per kilowatt hour which it recently agreed voluntarily to reduce to 12 cents per kilowatt hour. At the end of the year hearings by the Commission were still in progress.

*Case No. 1541 — Flatbush Gas Company — Complaint of Samuel Evans Maires and Others as to Rates for Electricity.*—This proceeding was begun by the Commission in 1912 to determine the fairness and propriety of the rate charged for electricity by the Flatbush Gas Company, which serves residents of the 29th ward of Brooklyn. The maximum rate of the company was 12 cents per kilowatt hour. Hearings continued during 1912 and 1913, concluding on October 15 of the latter year, at which time they were closed.

Briefs were filed by the company later but the Commission withheld its decision pending the appraisal and decision in the case of the Edison Electric Illuminating Company of Brook-

Having completed its work in the Edison Electric Illuminating case the Commission reopened the hearings in the Flatbush Company case. A hearing was held on October 23 and it was decided to adjourn to January 4, 1917, when the reports covering the operation of the company for the year 1916 would be in evidence.

*Case No. 2162—New York and Queens Electric Light and Power Company—Rates for Electricity in the First, Second Third and Fourth Wards of the Borough of Queens.*—On November 22, 1916, the Commission decided to begin an investigation of the rates charged for electric current by the New York and Queens Electric Light and Power Company, which supplies all of one of the wards of the Borough of Queens. The company now makes a maximum charge of 12 cents per kilowatt hour, which is the maximum permitted by law.

Hearings were held on December 4 and on December 20 and other proceedings were adjourned until January 10, 1917, when the taking of testimony will be resumed.

#### FORMAL CASES—GAS COMPANIES

*Case No. 2145—Woodhaven Gas Light Company—Hearing on the Extension of Mains and the Installation of Service Pipes.*—Complaints were received by the Commission from Gus Hanson, Carl Schwarze, John J. Comer and George J. Dickel against the Woodhaven Gas Light Company, alleging that they had been refused a supply of gas. Hearings were held by the Commission and testimony was taken. The representatives of the gas company stated at the hearings that the company was willing to make the connections to the premises of Messrs. Johnson and Schwarze, but that injunctions had been procured by City authorities through the office of the Corporation Counsel which prevented the company from laying the necessary mains. It was stated that the injunction was the outgrowth of a disagreement between the company and the Department of Water

Supply, Gas and Electricity as to whether it was necessary for the company to obtain a permit from that Department for the laying of its mains. The dispute had its origin in the refusal of the company to pay corporation inspectors assigned by two different City departments to inspect the work of laying the gas mains, the company contending that such inspectors were frequently paid for work which they did not perform.

While the proceedings were pending before the Commission the difficulties in respect of the gas connections needed by Messrs. Johnson and Schwarze were cleared up, and these two complainants notified the Commission that their complaints were satisfied. Thereupon the proceeding as to these two complaints was discontinued.

The complaint of Mr. Comer was in reference to the failure of the company to extend its mains some 1900 feet to his property. It was maintained by the company that a permit could not be obtained from the City for the necessary extension. The Commission on October 26 issued an order directing the company to extend its mains and service so as to supply gas to a number of buildings erected or in the course of erection by a real estate concern of which Mr. Dickel was the head, on Rector street near Jamaica avenue, Queens.

The company, after requesting a reopening of the case, agreed to comply with this portion of the Commission's order following the issuance of the necessary permit by the City. The Commission's order also dismissed the complaint of Mr. Comer, without prejudice to the filing of a new complaint or action by the Commission thereon.

The proceedings in this case, it developed at the hearings, were not so important from the standpoint of the complaints immediately involved as from the facts which were revealed as to the current practices of gas and electric companies in providing for new extensions. The Commission had before it earlier in the year a hearing on the complaint of George B. Shiras as to the failure of the New York and Queens Gas Company to connect its mains with his residence at Bayside.

In these cases and in still other instances which earlier came to the attention of the Commission, it was shown that the several companies varied widely in the terms which they imposed for

the making of extensions. Some of the companies, it was shown, had no standards to be generally followed.

With these facts in view the Commission instituted a new proceeding (Case No. 2157) directed to all gas and electric companies within the First District to determine whether existing methods of treating applications for extensions of mains and service beyond points at which the companies might expect reasonable returns from the investment should be made.

At the end of the year the hearings had been closed but no determination had been reached by the Commission.

*Case No. 1610—Newtown Gas Company—Rate for Gas in Second Ward of Queens.*—A brief history of this case as it existed at the end of 1915 was given in the last Annual Report.

On December 7, 1915, consideration of the case was postponed on account of the request of the Joint Legislative Committee for postponement of the decision in the case of the Kings County Lighting Company, which also affected gas rates and which was pending before the Commission at that time. The proceedings were begun in January, 1913, following the receipt of petitions from the company's consumers who sought a reduction in the price of gas from \$1 to 80 cents per thousand cubic feet. By agreement, the company reduced the price to 95 cents for one year from May 1, 1913, but in June of the following year restored the former rate, whereupon the Commission ordered a further hearing which began in June, 1914. An appraisal of the company's property was made during the course of the new proceedings. The Commission on May 25, 1916, unanimously adopted an order which approved the opinion submitted by Commissioner William Hayward, the effect of which was to reduce the rate for gas furnished by the Newtown Company from \$1 to 85 cents per thousand cubic feet. An opinion was submitted the same day by Commissioner Hayward, and an order adopted, affecting the rate for gas charged by three other gas companies in Queens Borough.

The opinion in the Newtown case had been submitted to the Commission in November, 1915, and was resubmitted for action by the present Commission in May of 1916 without change, except as to the effective date which was originally set for January 1,

1916, and which was advanced to July 1, 1916. However, Commissioner Hayward added the following preface to his opinion in the Newtown case:

"The opinion which follows was submitted in November of last year, but was not acted upon by the Commission as then constituted. The changes in the personnel of the Commission since that time have made a resubmission necessary, but I have delayed such action in the earnest hope that the Legislature would enact certain legislation recommended by the Commission under Section 16 of the Public Service Commissions Law.

"The legislation desired was:

"(1) A law fixing the rate for gas furnished in the Second Ward in Queens. Such an enactment would, of course, have made action by us unnecessary, and would have given immediate relief to consumers of gas.

"(2) A law providing that any rate fixed by this Commission should take effect as of the date when the rate proceeding was started, instead of at or after its conclusion. Such an enactment would have removed the existing incentive to the companies to delay rate proceedings.

"(3) A law doing away with the right of the companies to a review of a rate decision of this Commission by certiorari. This was in the interest of expedition, in that it removed a species of appeal which suspends a decision of this Commission and tends to delay relief to the consumers. The Legislature has adjourned without any action upon these matters, and I therefore resubmit my opinion herein."

Commissioner Hayward pointed out that no new facts had come to light which would warrant delay in the taking of further testimony, and he therefore made no changes in his recommendations. In the opinion as submitted in 1915 the Commissioner had estimated an increase in sales of 10 per cent for that year. This he pointed out in the new memorandum did not materialize. However, he stated that he believed that the postponement of the effective date of reduction from January to July, together with a general improvement in business conditions and a marked increase in population in the section served by the Newtown Company, which will follow the opening of the rapid transit lines in that territory, would cause an increase in sales which would more than make up for any lack of increase. He therefore permitted his recommendations to stand.

The Newtown Company was organized in 1891, apparently in the interest of the Williamsburgh Gas Light Company which was later absorbed by the Brooklyn Union Gas Company, which thus acquired the ownership of the Newtown Company. The Newtown Company never manufactured any gas, and acted only as a distributing system for the Brooklyn Union Gas Company.

Commissioner Hayward found that the Newtown Company since 1909 had paid the Brooklyn Union Company for the gas distributed by it at the rate of 50 cents per thousand cubic feet, the actual cost per thousand cubic feet delivered at the consumer's meter, taking into consideration distribution losses and gas used by the company, being 54.5 cents. The reasonableness of this charge was a very important factor in the case, the Commissioner stated. He held that a charge of 40 cents instead of 50 cents by the Brooklyn Union Company would be reasonable, which, if there were added thereto distribution losses and gas used by the company, would make the cost at the consumer's meter approximately 43.5 cents. To the figure of 43.5 cents Commissioner Hayward found that it would be proper to add 27.5 cents per thousand cubic feet of gas sold to cover operating expenses, taxes, uncollectible bills and depreciation. He also added 13 cents as a return on the property used for distribution, making all told about 41 cents as the amount justly chargeable to the consumer for the service of the Newtown Company. Adding 43.5 cents and 41 cents together, he arrived at 85 cents as the proper rate for the company to charge for its gas.

After giving consideration to the data submitted in the case, Commissioner Hayward in concluding his opinion said:

"On these figures and on the conclusions reached before as to the fair cost of distribution to the Newtown Company, I arrive at 85 cents as a fair allowance for gas sold to private consumers. Accompanying tables show the revenue and income of the company under present rate and under an 85-cent rate. These show that a rate of \$1 yielded in 1914 over 14 per cent on the fair value of the property, 18 per cent on the cost of the property and 26 per cent on the Brooklyn Union investment. A rate of 85 cents gives a return of 7 per cent on all property devoted to public service for supplying gas, 9 per cent on

the actual cost of the property and 12 per cent on the Brooklyn Union investment. The rate of return adopted, and the allowances for operating expenses used in the calculations, make provision for contingencies and surplus. The price of 85 cents gives substantial and equitable relief to the complainants and their fellow citizens, who have struggled for so many years to secure a determination of the merits of their claims involved in this case."

Officials of the Newtown Company declined to accept the Commission's order and applied for a rehearing, which was held by Commissioner Hayward on June 19, 1916, in connection with rehearings in the three other Queens gas cases.

On June 29, 1916, the Commission, following the rehearings and final arguments, denied the application of the company for revocation or modification of the order, and directed that the order fixing the rate at 85 cents stand.

Following an announcement that it would not accept the order, the company appealed to the Supreme Court and obtained a writ of certiorari from Justice Peter Hendrick in Special Term. The granting of the writ was accompanied by a condition imposed at the request of Counsel to the Commission to the effect that the company deposit in a bank to be named by the court all moneys over and above the rate ordered by the Commission, pending the final settlement of the litigation and the decision of the court upon the fairness of the rate fixed by the Commission.

*Cases Nos. 1787 and 1807 — Woodhaven Gas Light Company — Rates for Gas in the Fourth Ward, Borough of Queens.*— These cases involve the rate charged for illuminating gas by the Woodhaven Gas Light Company, The Richmond Hill and Queens County Gas Light Company and the Jamaica Gas Light Company, which charge \$1 per thousand cubic feet. Cases against these three companies were instituted in January, 1914, upon petition of customers of the various corporations. The petitioners requested a reduction from the \$1 rate to the rate of 80 cents. Hearings were held at first before former Commissioner Milo R. Maltbie, and later the cases were assigned to Commissioner Hayward upon the retirement of Mr. Maltbie from the Commission. The hearings ended on March 18, 1916.

On November 23, 1915, as stated in the last Annual Report, Commissioner Hayward filed an opinion in these cases, but no action was taken in view of the fact that requests had been made by the Joint Legislative Committee appointed by the Legislature in 1915 to investigate the Public Service Commission, for postponement by the Commission of action in the Kings County Lighting Company matter which also involved rates charged for gas. The original opinion submitted in 1915 called for the new rates to go into effect on January 1, 1916.

On May 25, 1916, Commissioner Hayward submitted opinions to the Commission in the cases just mentioned, reducing the rate of all three companies from \$1 to 95 cents. The opinions were accepted by the Commission, which also unanimously approved orders putting the proposed rate into effect for a period of one year from July 1, 1916, for a test. On the same day the Commission also approved an opinion by Commissioner Hayward and adopted an order in Case No. 1610 against the Newtown Gas Company, in which a reduction of rate was also approved — in this instance from \$1 to 85 cents as mentioned above. In the so-called Woodhaven case the opinion was resubmitted for substantially the same reasons as in the Newtown case, Commissioner Hayward stated in a note appended to his opinion, which was substantially the same as the opinion submitted to the Commission in the preceding November.

The companies were acquired in 1897 by the Brooklyn Union Gas Company. The Jamaica Company was incorporated in 1856 and manufactured gas until it was bought by the Brooklyn Union Company, from which time it purchased its gas from that company. Neither the Woodhaven Company nor the Richmond Hill Company ever had manufacturing plants, both being confined to the distribution of gas manufactured by the Brooklyn Union Company. The opinion pointed out that the Brooklyn Union Company acquired the Jamaica and Woodhaven companies for \$165,000. The Richmond Hill Company was acquired for the sum of \$26,758. Commissioner Hayward found that the three companies were merely distributing divisions of the Brooklyn Union Company, that they were practically one and had for the most part a common staff, and in part apportioned their operat-

ing expenses. The three companies were interwoven among themselves, and were interconnected with the operations of the Brooklyn Company, he held. He found that a controlling factor in the situation was the price charged by the Brooklyn Union Company for the gas furnished to the three companies, and he further held that it was necessary to pass upon the propriety of the Brooklyn Union Gas Company's charge for gas before the rate could be fixed, pointing out that this factor was similar to that existing in the Newtown case.

Commissioner Hayward found the value of the property of the four companies as of 1914, when the cases were started, to approximate \$1,200,000, and he figured that the Brooklyn Union Company had had a return upon these properties of 7 per cent, which he thought to be a fair rate of return. The Commissioner analyzed the various facts and data placed in evidence during the investigation, and deduced that, instead of the 50-cent charge by the Brooklyn Union Company to the subsidiaries of the Fourth Ward in Queens, a fair rate would be about 43 cents or 44 cents. The cost at the consumer's meter would be approximately 48 cents. The expense of distribution Commissioner Hayward found to be about 32 cents, to which should be added 13 cents to provide a fair return on the property for the benefit of the consumers. Taking into account the fact that this price affected gas sold to private consumers only, the special rate for street lighting not being taken into consideration, he determined that a fair rate would be 95 cents. The rate of \$1, he held, if continued through 1916, would yield more than 10 per cent return.

"Such earnings," he added, "are manifestly excessive and should be reduced. A rate of 95 cents will yield to the companies an adequate return and make fair allowance for contingencies and surplus."

On June 6, 1916, all three companies, through Counsel, appealed to the Commission for a rehearing, each stating that it felt aggrieved and that the order had been issued by the Commission in error. Each company set forth that none of the Commissioners who participated in the decision heard the oral arguments of the parties. It was claimed in addition that the Commission had received certain evidence, including analyses

reviews prepared by its own experts, in violation of law, and the rules laid down by the Court of Appeals. The company further maintained that the Commission had underestimated the production cost of the plant, had made no allowance for going out, had failed to show a reasonable average return upon capital actually expended and had failed to have regard for the necessity of making reservations out of income for surplus and contingencies. The company argued that the cost of the oil from which illuminating gas is made would show a future increase and that the cost of coal also used in manufacture would be likely to advance. It was further set forth that the order was unconstitutional. The Commission later adopted an order setting a rehearing for June 19, 1916, to be conducted by Commissioner Hayward. The rehearing lasted several days, and at its conclusion Commissioner Hayward recommended that the order of May 25 stand, without modification, a recommendation which was approved by the Commission on June 29, 1916.

On the following day the Commission received communications from Franklin B. Jourdan, Secretary of the three companies, declining to accept the order of the Commission, and stating that it was the purpose of the companies to apply to the courts for a writ of certiorari to review the order of the Commission. The Commission was later served in certiorari proceedings, which were argued before Justice Peter Hendrick, in Special Term, Part I, of the Supreme Court, New York County, who granted the writ. The condition, however, was imposed by Justice Hendrick, upon application by Counsel to the Commission, that all moneys collected by the three companies from their consumers over and above the amount fixed by the order of the Commission be deposited in a bank pending the hearing and decision of the certiorari proceeding. At the end of the year no final decision had been rendered by the court in the certiorari proceedings.

*Case No. 2066—Various Gas Companies—Investigation to determine and Fix Standard for the Measurement of Illuminating and Heating Power of Gas.*—On March 2, 1916, the Commission adopted an order calling upon the various companies manufacturing, distributing and selling illuminating gas within the City of New York to attend a hearing before the Commission

for the purpose of an investigation which the Commission proposed to undertake in respect of the standards employed by the various companies in the manufacture of gas.

At the present time gas is manufactured in a very large proportion of the communities where it is in use from materials which will provide a large proportion of lighting units. To manufacture such gas it is generally necessary to use a very considerable amount of oil in order to maintain the standard in this respect. The cost of oil has increased somewhat in recent years, causing gas of high candle power to increase in its manufacturing cost. At the same time experiments have gone forward looking to the development of the use of the mantle, or Welsbach gas light as it is commonly termed, by which light is created through heating a specially prepared mantle to a high state of incandescence.

The principle behind this form of gas light is the production of heat. Gas of high heating quality may be obtained without the use of large quantities of expensive oil. Mantle light has been improved in quality and reduced in price until its use is becoming more and more common. It was the purpose of the investigation undertaken by the Commission to determine whether gas made upon a thermal or heat unit basis would not be more efficient for general use.

Hearings were held on March 27 and other days, at which a considerable amount of expert testimony was given and at which Commissioners James O. Carr and William Temple Emmet of the Commission for the Second District were present.

On suggestion of Chairman Straus, W. F. Hine, Chief Gas Engineer for the Public Service Commission for the First District, held a conference with various representatives of the gas companies in the First District, a representative of the U. S. Bureau of Standards and a representative of the Department of Water Supply, Gas and Electricity of New York City.

The several conferees came to the conclusion that heat value is at the present time the best measure of the usefulness of illuminating gas and that candle power is of value only when the gas is used in open flame burners. Mr. Hine thereupon recommended that the Commission proceed immediately to establish testing stations and make tests throughout the city.

The Department of Water Supply, Gas and Electricity which is constantly making gas tests throughout the city, agreed to coöperate in the work. The Commission on April 6 unanimously approved the report of the Chief Gas Engineer and another hearing in the case was held on the following day, at which R. S. McBride, Chief Chemist of the Bureau of Standards, at Washington, was a witness.

On June 28 the hearings were closed, and on June 29 the Commission unanimously adopted a motion authorizing the Chief Gas Engineer to proceed with the tests as recommended in his earlier report, and supervision of the matter was left in the immediate charge of Commissioner Whitney.

On August 2 the Department of Water Supply, Gas and Electricity agreed to place at the disposal of the Commission its facilities for the purpose of making the tests, and the Commission later agreed to supply other apparatus and a station for testing purposes. At the end of the year the Commission's apparatus was being installed and tests were being made.

*Case No. 2062—Public Service Corporations—Hearing as to Regulations and Requirements Governing the Installation and Use of Electrical Equipment.*—Early in 1916 the Department of Water Supply, Gas and Electricity referred to the Commission for consideration several cases involving the installation of electrical equipment used in connection with the railroads and certain electrical equipment used by lighting and power companies subject to the jurisdiction of the Commission, inasmuch as the Electrical Code of The City of New York excludes such equipment from the jurisdiction of the City authorities.

On February 10 the Commission adopted a hearing order, having in mind the desirability of ascertaining whether proper precautions were being taken to safeguard employes and property of public service corporations using electrical equipment. The hearing was held to determine whether the Commission should prescribe for all such corporations subject to its jurisdiction rules, regulations and requirements concerning the installation and use of electrical equipment by corporations under its jurisdiction, generating stations, substations, storage battery stations, storage buildings and yards, service switches, etc.

Numerous conferences with representatives of the various companies took place at which a code was drawn, which, after suggested changes had been made by the companies, was accepted by the Commission on April 13. The order was accepted by the companies within the jurisdiction of the Commission and the Commission has since the promulgation of the code inspected and passed upon several installations of electrical equipment.

*Case No. 2115—Electrical Corporations—Installation in Buildings.*—Following the adoption by the Commission of a code to govern the installation of electrical apparatus by utility corporations as a result of its investigations made in Case No. 2062, the Commission on June 29 adopted an order instituting an inquiry to determine whether it should provide for all electrical corporations within its jurisdiction regulations governing the materials and methods used in installing electrical services in buildings.

As a result of the hearings, at which considerable testimony was taken as to various types of electric apparatus in use, the Commission on November 22 adopted an order which provides for the installation of devices the type of which had not been approved by the Commission.

The order also set forth the manner and terms of application for the testing and approval of equipment and the details of the installation of service equipment and meters. It requires that exceptions to this rule be made only by permission of the Commission. It was further prescribed that whenever service equipment was found to be unsafe or dangerous, the Commission, after notice to the corporation and after giving a reasonable time in which to put such apparatus in safe condition, may cause it to be disconnected and sealed to prevent its use.

Provision was made for the testing by the Commission of apparatus offered to it for approval as to type. The order of the Commission was unanimously adopted. Commissioner [Name] however, stipulating that he approved the order with the understanding that the rate of fees fixed by it should be sufficient to reimburse the Commission for all expenses of testing.

At the end of the year the Commission had before it applications from several of the electrical service corporations under its jurisdiction, requesting that modifications be made in the order.

*Case No. 2151—New York Steam Company—Failure to File Notice of Increase in Rates.*—During September several complainants called to the attention of the Commission the rates of the New York Steam Company, a corporation which furnishes steam to residences and business houses for heating and power purposes. One of the complainants, T. H. Price, stated that earlier in the month he had been requested to sign a rate schedule by the company, which apparently provided for an increase in rates. As a result of investigation a hearing was ordered, on motion of the Commission, to determine whether the New York Steam Company was acting in violation of the provisions of the Public Service Commissions Law by advancing the price of steam without filing a schedule of rates, as provided by law. Testimony introduced at the hearing indicated that the Steam Company had not fully complied with orders of the Commission directing the filing of schedules of charges for service. The company advanced the excuse that its management and finances had been in a somewhat disturbed condition owing to the change of ownership, and that it had been unable to file the kind of schedules required by the Commission. The company was informed that technically it was not observing the terms of the Public Service Commissions Law and was directed to file schedules of its rates forthwith. The company acceded to this direction and filed a new schedule of rates, whereupon the proceeding involving the rate question was discontinued, with the understanding, however, that if any of the complainants desired the case to be reopened upon the question of the fairness of the rates, it would be taken up again.

## CHAPTER VII

### STOCK AND BOND AUTHORIZATIONS

Under the provisions of the Public Service Commissions Law public utility companies under the jurisdiction of the Commission may issue capital stock and evidences of indebtedness payable at periods of more than twelve months after the date thereof only after consent has been obtained from the Commission, which is required to certify the purposes of the issue in each case. The amount of securities thus authorized by the Commission in the year 1916 aggregated \$16,808,000 par value, as follows:

COMPANIES	Class of security	Date of authorization	Amount of issue authorized (par value)	Case No.
<i>Transportation Companies (Sec. 55)</i>				
Brooklyn Eastern District Terminal	Stock.....	May 18, 1916	\$110,000	2044
Manhattan Railway Co.....	Bonds.....	Feb. 3, 1916	4,522,000	1762
Manhattan Railway Co.....	Bonds.....	Feb. 28, 1916	1,000,000	2050
New York Connecting Railroad Co..	Bonds.....	May 4, 1916	8,000,000	2053
<i>Lighting Companies (Sec. 69)</i>				
Kings Co. Electric Light & Power Co.	Convertible bonds	Dec. 4, 1916	2,500,000	2132
Kings County Lighting Co.....	Bonds.....	Sept. 8, 1916	675,000	2013
Total.....	.....	.....	\$16,808,000	.....

The amount applied for was greater than the amount authorized by the sum of \$886,000, represented by the application of the Manhattan Railway Company for the approval of a total issue of \$5,409,000. The company decided to submit proof of expenditures amounting to \$886,000 of this amount at a later time.

Of the entire amount of securities authorized by the Commission in 1916, \$8,000,000, or substantially one-half, is represented by the application of the New York Connecting Railroad Company for a further issue of its 4½ per cent bonds. The Commission had previously authorized \$16,000,000 par value of these bonds and the present issue is designed to make provision for substantially all of the construction work remaining to be done on its new railroad from Port Morris in The Bronx to a point in the borough of Queens about ten miles distant, where connection will

made with the tracks of The Long Island Railroad Company and its subsidiaries to the Brooklyn waterfront in the vicinity of Bay Ridge. The capital stock of the company is owned jointly by the Pennsylvania Railroad Company and the New York, New Haven & Hartford Railroad Company, which guarantee the bonds. The company sold the bonds for 95½ per cent of the face value (besides accrued interest).

The Commission granted two applications from the Manhattan Railway Company, in one case authorizing the issue of \$1,000,000 for value of its 4 per cent consolidated mortgage bonds to refund like amount of 5 per cent debentures of the New York Elevated Railroad Company maturing March 1, 1916. The Interborough Rapid Transit Company, lessee, bought the new issue at 100. In another case the Commission approved a second mortgage of the company providing for an ultimate issue of \$5,409,000 of 4 per cent bonds and authorized the immediate issue of \$4,523,000 for the payment of the company's indebtedness to the Interborough Rapid Transit Company, lessee, for additions and betterments to June 30, 1913. Inasmuch as the certificates granted by the Commission March 19, 1913, to the Manhattan Railway Company for third tracks and elevated extensions provide that the compensation to the City for the grants shall be based upon the increase in the net profits of the entire elevated railway following the use of the additional facilities and the net profits are affected by the deduction of the interest charges of the Manhattan Railway Company assumed as part of the rent by the Interborough Company, the Commission sought to protect the interests of the City by inserting in its order authorizing the issue, a statement to the effect that its action was not to be regarded as an interpretation of the rapid transit certificates referred to and did not affect the right of either the City or the company to contend for the exclusion or inclusion of the additional interest charge as a part of the net deduction in arriving at net profits. The minimum price fixed in the order for the sale of the bonds was 82, but the company realized a price of 87.15 per cent of the face value (besides accrued interest).

On May 18, 1916, the Commission authorized the Brooklyn Eastern District Terminal to issue its stock to the amount of

\$110,000 for the purpose of acquiring an equal amount of two companies — \$10,000 par value capital stock of the River Terminal Railroad and \$100,000 par value of the Brooklyn Eastern District Terminal, a navigation corporation incorporated June 22, 1906, the new company being a consolidation of two corporations. Important questions of corporation law were discussed in the opinion of the Commission, which is summarized below.

There were only two applications granted from light and power companies under section 69 of the Public Service Commission Law. The Kings County Electric Light & Power Company was authorized to issue \$2,500,000 par value of 6 per cent convertible debenture bonds and an equal amount of capital stock for the purpose of conversion. The proceeds were to be used for the purpose of bank loans and the reimbursement of expenditures made from the general funds of the company for improvements on its property or the property of the lessee company, the Edison Illuminating Company of Brooklyn, subsequent to October 1, 1912. The original application proposed to capitalize expenditures to February 28, 1914, but as a result of the Commission's examination which showed a shortage of \$32,000 in the addition to property before making any allowance for depreciation, the petition was amended to cover expenditures to September 30, 1914. The increase in fixed capital for the two years October 1, 1912–1914, without considering depreciation, was \$3,175,428, of which \$726,528 was on the property of the Kings County Electric Company and \$2,448,914 on the property of the Edison Company. Owing to the established practice of the company of submitting regular monthly statements of construction expenditures, the Commission was able to make its examination and render its opinion in this case in less than two months.

The remaining application granted by the Commission in 1914 was that of the Kings County Lighting Company for the approval of an issue of \$675,000 par value of bonds covering expenditures already made on the property of about \$135,000 and expenditures to be made hereafter and charged against the bond principal when audited by the Commission. The Commission found in this case that the money already expended had been derived from the depreciation fund of the company and it therefore stipulated

its order that the \$135,000 should be used only to make good depreciation of the property. The company objected to this condition in the order and obtained a writ of certiorari for the purpose of a court review. The principles involved are discussed below.

The table opposite shows at a glance all of the applications for approval of security issues that were before the Commission in 1916. The first two of the six cases pending at the close were awaiting further proof from the petitioner, the last two were in process of investigation with hearings still to be held, and the other two were under consideration, hearings having been finished.

The second division of the table is a summary of all cases before the Commission since its establishment in July, 1907, the particulars being given in a separate statement. Some duplication is unavoidably involved in the totals, which is apparent in the case of the Third Avenue Railway Company as an illustration. Even the total of authorizations is swelled by duplications involved in refunding issues, notes secured by bonds, and bonds convertible into stock. The total authorizations for these reasons cannot be brought into comparison with the outstanding capitalization of New York City companies.

## APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS, BONDS, ETC., BEFORE THE COMMISSION IN 1916

COMPANY	Case No.	Class of security	AMOUNT APPLIED FOR		Applications disposed of in 1916	Pending December 31, 1916
			Prior to 1916	In 1916		
Section 55						
Brooklyn Eastern District Terminal	2044	Stock	\$110,000 00	.....	\$110,000	.....
Brooklyn, Queens County & Suburban R. R. Co.	1444	Bonds	299,543 72	.....	.....	(a) \$299,543 72
Coney Island & Gravesend Ry. Co.	1664	Notes	2,983,900 00	.....	.....	2,983,900 00
Dry Dock, East Broadway & Battery R. R. Co.	1715	Bonds	(b) 2,800,000 00	.....	(b) 770,000	(b) 2,030,000 00
Manhattan Railway Co.	1762	Bonds	5,409,000 00	.....	5,409,000	.....
Manhattan Railway Co.	2059	Bonds	.....	\$1,000,000	1,000,000	.....
New York Connecting Railroad Co.	2083	Bonds	.....	8,000,000	8,000,000	.....
New York Municipal Railway Corporation	2075	Stock	.....	897,500	.....	697,500 00
Total	.....	.....	\$11,602,443 72	\$9,697,500	\$15,289,000	\$6,010,943 72
Sections 69 and 89						
Kings County Electric Light & Power Co.	1477	Conv. bonds	.....	(c) \$1,000,000	.....	\$1,000,000 00
Kings County Electric Light & Power Co.	2152	Conv. bonds	.....	2,500,000	\$2,500,000	.....
Kings County Lighting Co.	2013	Bonds	\$675,000 00	.....	675,000	.....
New York Steam Co.	2086	Bonds	2,850,000 00	.....	.....	2,850,000 00
Total	.....	.....	\$3,525,000 00	\$3,500,000	\$3,175,000	\$3,850,000 00
Grand total	.....	.....	\$15,127,443 72	\$13,197,500	(d) \$18,464,000	\$9,860,943 72

## SUMMARY, JULY 1, 1907-DECEMBER 31, 1916

	Amount authorized	Amount disallowed	Amount withdrawn	Amount pending	Total applications
December, 1915.....	\$635,159,477 64	\$103,829,738 12	\$10,244,000 00	\$15,127,443 72	\$824,100,657 48
Year 1916.....	16,808,000 00	1,666,000 00	(c) [1,000,000 00]	(/) [5,266,560 00]	12,197,500 00
December, 1916.....	\$651,967,477 64	\$165,285,738 12	\$9,244,000 00	\$9,860,943 72	\$836,358,157 48
Whereof —	545,186,077 64	111,084,738 12	0,994,000 00	6,010,943 72	669,276,757 48
Transportation.....	106,781,400 00	54,201,000 00	2,250,000 00	3,850,000 00	167,082,400 00
Lighting.....					

(a) Pending since 1912, awaiting further proof.

(b) This application, previously reported as disallowed, was referred to the Commission by the Appellate Division of the Supreme Court for redetermination. It was later denied without prejudice to the filing of a new application for the amount now pending.

(c) Application was discontinued without prejudice in 1912; reopened at request of company.

(d) The entire amount was authorized with the exception of \$770,000 in Case 1715 and \$886,000 in Case 1762.

(e) Represents net reduction in amount reported as withdrawn, due to reopening of Case 1477 (application of Kings County Electric Light &amp; Power Company for \$1,000,000 of convertible debentures).

(f) Represents net decrease in amount pending.

## APPLICATIONS BEFORE THE COMMISSION FOR APPROVAL OF BOND AND STOCK ISSUES, JULY 1, 1907, TO DECEMBER 31, 1916

NAME OF COMPANY	Class of security	Amount applied for (a)	Amount allowed	Amount not allowed	Application withdrawn	Pending	Case No.
<i>Transportation Companies</i>							
Belt Line Railway Corporation	Stock	\$200,000 00	\$431,300				1904
Belt Line Railway Corporation	Bonds	2,200,000 00	1,750,000	\$218,700 00			1954
Belt Line Railway Corporation	Stock	49,700 00	49,700				1703
Belt Line Railway Corporation	Stock	269,000 00	253,000	16,000 00			1823
Broadway & South Avenue R. R. Co.	Bonds	500,000 00	500,000				1833
Brooklyn & North River R. R. Co.	Stock	500,000 00	100,000	400,000 00			1739
Brooklyn Eastern District Terminal	Stock	110,000 00	110,000				2044
Brooklyn, Queens County & Suburban R. R. Co.	Bonds	299,543 72					1444
Brooklyn Union Elevated R. R. Co.	Notes	20,000,000 00		20,000,000 00		(b) \$299,543 72	643
Central Park, North & East River R. R. Co.	Stock	500,000 00			\$500,000		1574
Central Park, North & East River R. R. Co.	Bonds	1,100,000 00			1,100,000		1095
City Island & Rye R. R. Co.	Bonds	30,000 00	30,000		30,000		273
Coney Island & Brooklyn R. R. Co.	Car trust certificates	568,500 00	490,000	78,500 00			420
Coney Island & Brooklyn R. R. Co.	Bonds	372,000 00	151,000	221,000 00			1109
Coney Island & Brooklyn R. R. Co.	Notes	(c) 500,000 00	500,000				1300
Coney Island & Brooklyn R. R. Co.	Bonds	118,548 00	81,819	26,747 00			1302
Coney Island & Gravesend R. R. Co.	Notes	2,983,800 00				2,983,800 00	1064
Coney Island & Gravesend R. R. Co.	Bonds	2,800,000 00		770,000 00		(d) 2,030,000 00	1715
Dry Dock, E. B. way & Battery R. R. Co.	Stock	10,000 00			10,000		634
East River Terminal R. R. Co.	Notes	750,000 00	750,000				1747
Eight Avenue Railroad Co.	Bonds	37,035,000 00	37,035,000				1680
Hudson & Manhattan R. R. Co.	Bonds (income)	33,574,000 00	33,574,000				1805
Hudson & Manhattan R. R. Co.	Bonds	54,000 00	194,000				1845
Hudson & Manhattan R. R. Co.	Bonds	202,500 00	202,500				1973
Interborough Rapid Transit Co.	Bonds	615,500 00	615,500				315
Interborough Rapid Transit Co. (e)	Notes	30,000,000 00	30,000,000				1392
Interborough Rapid Transit Co. (f)	Bonds	(c) 23,000,000 00	23,000,000				1614
Interborough Rapid Transit Co. (g)	Bonds	17,123,611 00	12,755,000	4,368,611 00			1650
Manhattan & Queens Traction Corp'n	Stock	(h) 161,264,000 00	(i) 160,957,000	327,000 00			1356
Manhattan Bridge Three-Cent Line	Bonds	1,500,000 00	(g)		1,500,000		1560
Manhattan Bridge Three-Cent Line	Stock	50,000 00	50,000	69,000 00	1,500,000		1602
Manhattan Bridge Three-Cent Line	Stock	200,000 00	140,000				
Manhattan Bridge Three-Cent Line	Stock	260,000 00	260,000				

Manhattan Railway Co.	Bonds	10,818,000 00	10,818,000	572
Manhattan Railway Co.	Bonds	894,000 00	894,000	573
Manhattan Railway Co.	Bonds	5,409,000 00	4,533,000	1762
Manhattan Railway Co.	Bonds	1,000,000 00	1,000,000	2060
Mid-Crosetown Railway Co., Inc.	Stock	500,000 00	500,000 00	1607
	Bonds	500,000 00	500,000 00	
Mid-Crosetown Railway Co., Inc.	Stock	(A) 187,000 00	150,000	1728
Nassau Electric R. R. Co.	Notes	5,000,000 00	5,000,000 00	642
Nassau Electric R. R. Co.	Bonds	720,000 00	720,000	1163
Nassau Electric R. R. Co.	Bonds	52,000 00	52,000	1343
New York & North Shore Traction Co.	Bonds	1,500,000 00	787,500	1398
	Stock	771,764 12	14,284 12	
New York & North Shore Traction Co.	Stock	115,464 00	81,850	
New York Connecting R. R. Co.	Bonds	11,000,000 00	11,000,000	1770
New York Connecting R. R. Co.	Bonds	5,000,000 00	5,000,000	1720
New York Connecting R. R. Co.	Bonds	8,000,000 00	8,000,000	1810
New York Dock Railway	Stock	500,000 00	500,000	2083
New York Dock Railway	Stock	1,000,000 00	100,000	1687
New York Municipal Ry. Corporation	Bonds	65,000,000 00	40,000,000	1612
	Bonds		20,000,000	1692
	Bonds		5,000,000 00	1615
New York Municipal Ry. Corporation	Stock	697,500 00	697,500 00	2029
	Bonds	(g) 17,500,000 00	17,500,000	2075
	Bonds	(h) 16,768,100 00	16,768,100	1305
New York Railways Co.	Bonds (income)	(i) 31,933,400 00	31,933,400	
New York Railways Co.	Bonds	(j) 754,000 00	754,000	1511
New York Railways Co.	Bonds	2,600,000 00	640,000	1560
New York Railways Co.	Bonds	2,100,000 00	2,100,000	1830
Pelham Park R. R. Co.	Bonds	50,000 00	50,000	1096
Pelham Park & City Island Ry. Co., Inc.	Stock	125,000 00	117,000	1655-1656

NOTE.—The statement does not include the Supplemental mortgage of Forty-second Street, Manhattanville & St. Nicholas Avenue Railway Co. and extension of term of \$1,200,000 bonds issued thereunder (case 1508).

(a) The amounts hereunder stated are generally in accordance with applications as amended rather than with original petition.  
 (b) Awaiting presentation of further proof.  
 (c) Three-year notes for which the bonds previously authorized were pledged as security.  
 (d) This application, previously reported as disallowed, was referred to the Commission by the Appellate Division of the Supreme Court for re-determination. It was later denied without prejudice to the filing of a new application for an amount not in excess of \$2,030,000, which application is now under consideration.  
 (e) Replaced and abrogated by order immediately following except as to \$3,407,000 bonds.  
 (f) Of this amount \$32,896,000 are to discharge or refund bonds previously authorized by the Commission.  
 (g) An issue of \$765,000 stock was authorized by the Commission in an order dated February 5, 1914. This was abrogated by order dated March 10, 1914, the application having been withdrawn by the company.  
 (h) The original application asked for an order authorizing the company to issue capital stock and bonds in such amount as should be deemed proper by the Commission.  
 (i) In accordance with amended petition of the Metropolitan Street Railway Co. Bondholders' Committee.  
 (j) Certificate of approval given by the Commission in accordance with a direction by the Court.  
 (k) Discontinued without prejudice.

## APPLICATIONS BEFORE THE COMMISSION FOR APPROVAL OF BOND AND STOCK ISSUES, JULY 1, 1907, TO DECEMBER 31, 1916 -- (Concluded)

NAME OF COMPANY	Class of security	Amount applied for (a)	Amount allowed	Amount not allowed	Application withdrawn	Pending	Case No.
<i>Transportation Companies -- Concluded</i>							
South Flatbush R. R. Co.	Bonds	\$30,000 00					1114
Spartan Duvall & Port Norris R. R. Co.	Bonds	2,500,000 00	(c) \$2,500,000		\$30,000		1127
Spouton Island Midland Ry. Co.	Car trust certificates	135,000 00	135,000				1887
Third Avenue Bridge Co.	Stock	20,000 00	20,000				1435
Third Avenue Bridge Co.	Notes	92,908 64	92,908 64				1663
Third Avenue R. R. Co. Bondholders' Committee.	Bonds	48,516,800 00		\$48,516,800 00			1128
	Stock	20,000,000 00		20,000,000 00			
	Bonds	15,790,000 00	(c) 15,790,000				
	Bonds (income)	22,536,000 00	(c) 22,536,000				1181
Third Avenue Railway Co.	Stock	16,690,000 00	(c) 16,690,000				
Third Avenue Railway Co.	Bonds	800,000 00	187,000				1714
28th & 29th Streets Crosstown R. R. Co.	Bonds	6,650,000 00	6,020,500	313,000 00			1778
Bondholders' Committee.	Stock	800,000 00		629,500 00			1357
Twenty-third Street Railway Co.	Bonds	1,000,000 00			500,000		
	Bonds	1,500,000 00	1,500,000		1,000,000		1584
<b>Total -- Transportation companies</b>		<b>\$669,276,757 48</b>	<b>\$545,186,077 64</b>	<b>\$111,084,736 12</b>	<b>\$6,094,000</b>	<b>\$6,010,943 72</b>	
<i>Light, Heat and Power Companies</i>							
Astoria Light, Heat & Power Co.	Bonds	\$5,000,000 00	\$5,000,000				1717
Astoria Light, Heat & Power Co.	Stock	9,500,000 00	9,500,000				1160
Bronx Gas & Electric Co.	Bonds	740,000 00	643,000	\$97,000 00			1287
Bronx Gas & Electric Co.	Bonds	154,000 00	154,000				1390
Bronx Gas & Electric Co.	Bonds	80,000 00	80,000				1067
Bronx Gas & Electric Co.	Bonds	200,000 00	200,000				1940
Brooklyn Borough Gas Co.	Bonds	200,000 00	200,000				1486
Brooklyn Borough Gas Co.	Stock	105,000 00	105,000				1787
Brooklyn Borough Gas Co.	Stock	125,000 00	125,000				1869
Brooklyn Union Gas Co.	Stock	125,000 00	125,000				640
Consolidated Gas Co.	Convertible bonds	3,000,000 00	3,000,000				1823
Kings Co. Electric Light & Power Co.	Stock	25,000,000 00	25,000,000				
Kings Co. Electric Light & Power Co.	Convertible bonds	25,000,000 00	25,000,000				1174
Kings Co. Electric Light & Power Co.	Convertible bonds	6,000,000 00	4,000,000		(m) 1,000,000 00		1477
Kings County Lighting Co.	Convertible bonds	2,500,000 00	2,500,000				1575
Kings County Lighting Co.	Convertible bonds	2,500,000 00	2,500,000				2152
Kings County Lighting Co.	Bonds	450,000 00	200,000		\$250,000		1110
Kings County Lighting Co.	Bonds	729,000 00	625,000				1474
Kings County Lighting Co.	Bonds	675,000 00	675,000	104,000 00			2013

Long Acre Electric Light & Power Co.....	Bonds.....	50,000,000 00	(1) 4,000,000	46,000,000 00	.....	419,797
Long Acre Electric Light & Power Co.....	Stock.....	10,000,000 00	(1) 2,000,000	8,000,000 00	.....	
New York & Queens Electric Light & Power Co.....	Bonds.....	2,000,000 00	.....	.....	.....	1204
New York Edison Co.....	Stock.....	5,349,400 00	5,349,400	.....	2,000,000	1218
New York Edison Co.....	Stock.....	15,800,000 00	15,800,000	.....	.....	1718
New York Steam Co.....	Bonds.....	2,850,000 00	.....	.....	2,850,000 00	2036
Total light, heat and power companies	.....	\$167,082,400 00	\$106,781,400	\$54,201,000 00	\$3,850,000 00	.....
Grand total — All companies.....	.....	\$836,358,157 48	\$651,967,477 64	\$165,285,736 12	\$9,860,943 72	.....

(1) New York Central & Hudson River R. R. Co. bonds were issued, secured by a mortgage on the Spuyten Duyvil and Port Morris R. R. Co. property.  
 (m) Case 1477 reopened October 19, 1916. Previously reported as discontinued without prejudice.

## AUTHORIZATION OF TRANSFERS OF STOCKS

Applicant	Stock to be acquired		Date of permit
	Par value	Company	
Bklyn. East. Dist. Term. (Under Sec. 54)	{ \$100,000 10,000	{ Bklyn. East. Dist. Term..... East River Terminal R. R..... }	May 18, 1915

Reference has already been made to the approval by the Commission of a proposed stock issue of \$110,000 by the Brooklyn Eastern District Terminal. The purpose of the issue was to increase the capital stock of the East River Terminal Railroad and the Brooklyn Eastern District Terminal (incorporated June 22, 1904 as a navigation corporation) and then to merge those companies. The transfer of the stock of the railroad company, under section 54 of the Public Service Commissions Law, could be made only with the consent of the Commission. The opinion adopted by the Commission discussed at length technical questions arising under that section, under section 149 of the Railroad Law, under sections 154 and 157-b of the Freight Terminal Act, which Act substitutes Article 10-a of the Transportation Corporation Law, and under section 6 of the General Corporation Law.

### KINGS COUNTY LIGHTING COMPANY BOND ISSUE (Case No. 2013)

From the standpoint of the principles involved, one of the most important decisions reached by the Commission in a capital case in 1916 was the order authorizing the Kings County Lighting Company to issue additional bonds to the face amount of \$675,000, subject to certain conditions designed to safeguard the investment and prevent the payment of dividends out of capital. An adequate depreciation reserve is important in the case of

\* For reference purposes the following recital of the facts is included: Under date of March 10, 1915, the Kings County Lighting Company filed a verified petition in which it requested the Commission for authority to issue \$675,000 par value of bonds under its first refunding mortgage of 1904, under which bonds of the face amount of \$2,428,000 were already outstanding. The preceding authorization of July, 1912 (Case 1474), the Commission had approved the issue of bonds sufficient to provide for \$350,000 of capital additions, but these funds were exhausted in 1914. By June 30, 1915, according to the books of the company, there had been expended \$368.84 in excess of the \$350,000. It was proposed to issue bonds to reimburse the treasury for \$368.84 on June 30, 1915, and to provide for additions and extensions to its property subsequent thereto. It was anticipated that the bonds would be sold at substantially 90 per cent of the par value, which would require a considerable amount of the proposed issue for discount and expenses. Hearing was held and witnesses examined and on May 25, 1916, an order was adopted authorizing the issue of \$472,000 par value of bonds for the following purposes: (1) For construction, extension or improvement of its property, \$311,454.57; (2) for the reimbursement of \$160,545.43 expended from income or such other moneys in the treasury, \$134,545.43; (3) for expenses of discount in connection with the sale, \$26,000 (sale to be made at 95). The order also required that for the year 1916 and thereafter until the Commission shall have authorized the application of all the proceeds of the bonds authorized, the company shall charge to the prescribed expense account for amortization of capital 11½ cents per M cu.ft. of gas sold less amounts charged to the repair accounts. Also for the year 1915 a transfer was required of \$29,801.06 from corporate reserve to the reserve account. Accrued amortization of capital, representing the difference between 11½ cents and 8 cents per M cu.ft. of gas sold. In addition, a transfer from corporate reserve to the reserve was required of \$454,246.46, representing the difference between the balance of the reserve and the amount required for the year 1916.

public utility and particularly important in the case of a utility company already overcapitalized, for an increase in the variance between the liabilities and assets necessarily impairs the security on which the credit of a corporation rests. The evils of overcapitalization in the case of public utility companies were manifestly one of the causes of the enactment of the Public Service Commissions Law, which in the words of the Court of Appeals "made the commissions the guardians of the public by enabling them to prevent the issue of stock and bonds for other than statutory purposes or in appreciable and unfair excess of the value of the assets securing them (207 N. Y. 93)."

The overcapitalization of the Kings County Lighting Company has been a matter of common knowledge, particularly since the disclosures made before the Commission in its investigation of the question of rates in 1911, wherein it appeared that without any increase in property or rights the company by process of reorganization in 1904 had over night increased its capitalization from \$2,000,000 to \$4,112,000. The suspicion that a considerable part of the original stock issue of \$1,000,000 represented merely the expectation of future profits was substantiated as the result of a comprehensive inventory and appraisal of the company's property. Although the company's real estate had appreciated in value to the extent of more than \$500,000, the Commission found that the company in December, 1910, had issued \$2,803,000 of bonds besides \$2,000,000 of stock against physical property of a replacement value of \$2,137,579, or a total value, including working capital and an allowance of \$260,000 for preliminary and development expenses, of less than \$2,500,000 (Reports of Decisions, vol. II, page 690). The Court of Appeals held that the Commission should have made a specific allowance

reserve and the accrued depreciation as of December 31, 1914. Retirements of property acquired July 1, 1904, were required to be credited to the account on the basis of 183.6 per cent of the estimated cash cost until the company should have reclassified the account entitled "Fixed Capital December 31, 1908."

An application for an extension of time within which to notify the Commission whether the order would be accepted and obeyed was denied. Under date of June 8, 1916, the company advised the Commission that the terms of the order were not accepted and would not be obeyed on account of conditions imposed which are enumerated above. A rehearing was granted on June 22, 1916, on the application of the company made under date of June 15, 1916. After further hearings were held an amended order was issued on September 8, 1916, authorizing the issue of \$675,000 par value of bonds for the following purposes: (1) For construction, completion, extension and improvement of its property, \$472,954.57; (2) for reimbursement of moneys expended from income or such other moneys in the treasury for construction, etc. and when so reimbursed to be used only to make good depreciation in the property of the company, \$134,545.43; (3) for expenses and discount in connection with the sale of the bonds not to exceed \$67,500 (sales to net not less than 90). The amended order of September 8, 1916, was not accepted by the company because of the restriction imposed that the amount returned to the treasury should be used only to make good depreciation of the property, and on December 16, 1916, the company obtained a writ of certiorari to review the Commission's amended order in the proceeding.

for "going value" but left the physical valuation to be made by the Commission. The company claimed that it at least was supported by the value of a municipal street-light contract which by its terms expired September 2, 1916. The Commission's refusal to place a valuation upon this contract was sustained by the court.

In 1915, when the case was returned to the Commission for redetermination pursuant to the order of the court, the appraisal was brought down to the beginning of 1915 by the inclusion of additions made to the property in the four years intervening. The Commission had not made a finding in the matter at the time of the enactment of the 80-cent gas law by the Legislature, thereupon discontinued the proceedings, but the revised valuation of the property made by the Engineer of the Commission together with the original allowance of \$260,000 for development expenses and an increased allowance for working capital, made a total valuation of \$3,000,000 as against bonds then outstanding of a face amount of \$3,178,000 and stock of a par value of \$2,000,000. With an actual deficit (excess of liabilities over assets) of more than \$2,100,000, the company's balance sheet exhibited a corporate surplus of \$645,300, and it was this "plus" that the company was relying upon for the payment of dividends.

In the company's application to the Commission to authorize the issue of \$675,000 of bonds, it proposed to issue approximately \$525,000 for new construction and improvements and to include \$150,000 on the basis of improvements already made (to January 30, 1915) and included in considerable part in the valuation of January 1, 1915. The company claimed the right to use the moneys received from the sale of bonds for the reimbursement of its treasury for any corporate purpose, including, of course, the payment of dividends. But the necessary effect of the creation of additional liabilities without corresponding additions to the assets was the impairment of the security underlying the existing bonds and injury to the investors holding those bonds and ultimately to the public served by the investment of funds in the property of the company. Whereas the last previous issue of bonds under the same mortgage had been sold at 96½, the company was unable to obtain a better price than 90 for the new issue.

The evidence showed that the company was not setting aside a sufficient proportion of its earnings to provide for the depreciation of its property. The annual charge for depreciation averaged approximately \$20,000, which was practically 1 per cent of the estimated cost of reproduction. The usual percentage is between 2 and 3 per cent of the cost of the depreciable property, and until a few years ago Massachusetts by statute had required municipal gas plants to charge 5 per cent annually for depreciation. In its determination of rates in 1911, the Commission found that the annual depreciation was approximately \$50,000 and the company in July, 1916, virtually accepted this finding by filing an amended rule of depreciation which more than doubled its previous charge.

The company's income statement for 1915 showed net corporate income of \$101,754 available for dividends. It paid a 6 per cent dividend on its \$2,000,000 of stock, thus creating a deficit for the year of \$18,245. This was on the basis of its inadequate depreciation allowance. Had the charge for depreciation been made at the rate called for by its later rule, the deficit would have been \$48,047 (Exhibit No. 10). Even this figure might be too small, because the company had included in revenue the total amount of bills rendered for gas supplied to the City of New York under a lighting contract that was in dispute.

The evidence showed, moreover, that with proper correction of the company's income account on the basis of an adequate depreciation charge as recognized in its amended rule of amortization, the company since 1911 had paid out in dividends all and more than the profits earned during the period; that none of the moneys expended for property during the period could therefore have been derived from income; that all such moneys were, on the other hand, derived from the sale of bonds or from moneys belonging properly to the depreciation fund.\*

\* The source of the funds is clearly indicated in Exhibit No. 5 interpreted and corrected to conform with Exhibit No. 9. The amount of undistributed profits in the period January 1, 1912, to June 30, 1915, appears in the increase of surplus stated at \$47,715, but this is before correction has been made in the depreciation account on the basis of the company's amended rule of 11½ cents per M cu. ft. of gas sold, which is based upon the Commission's determination, and is 3½ cents more per M cu. ft. than the rule used by the company during the period. This difference of 3½ cents per M cu. ft. of gas sold would call for an increase in the depreciation fund of \$93,656.50 over the amount stated on the books (\$48,209) and would, of course, have entirely wiped out the \$47,715 of so-called undistributed profits. In other words, the company during this period paid approximately \$46,000 of dividends out of the depreciation fund or other working capital by reason of its failure to make adequate charges to income for the accruing depreciation.

In order to guard against the possibility of further payment of capital by the payment of unearned dividends,\* was rendered possible by the existence of a fictitious book surplus. The Commission in its original order required the company after to make a charge against revenue for maintenance (including depreciation) at the rate of  $11\frac{1}{2}$  cents per M cu. ft. of gas sold and also required the company to transfer from surplus to the depreciation reserve an amount equal to \$454,246.46, with the \$97,717.67 already in the reserve, would equal the amount of accrued depreciation as of December 31, 1914, according to the report of the Gas Engineer of the Commission (\$551,964.13 — Exhibit No. 12). With such transfer, the surplus would have been \$191,053.13, which would still be a fictitious surplus even on the basis of book assets and liabilities rather than actual assets, for the reason that the company's opening entries July 1, 1904, set up a purely fictitious surplus of \$320,140.17 (Exhibit No. 11). The latter amount was the balance of the surplus account when the property and assets of the Kings County Gas & Illuminating Company were taken over and does not include any earnings of the Kings County Lighting Company. Sound accounting practice requires that the surplus should not appear on the opening balance sheet of a company or consolidated company but should instead be used as an addition to the value of the property taken over. Had this been done the books would show a deficit of \$129,087.04 after the transfer of \$454,246.46 to reserve account.

The company subsequently accepted the annual charge for maintenance (including depreciation) of  $11\frac{1}{2}$  cents per M of gas sold by voluntarily filing an amended rule of amortization and the Commission therefore eliminated this requirement from its amended order. The matter of correcting the surplus and reserve accounts was taken up in a separate proceeding in order to make sure that none of the proceeds of the bonds could be used for the payment of unearned dividends, the Commission in the final order stipulated that the amount reimbursed for depreciation be used only to make good depreciation in the property

\* The courts have held that "the net income of a corporation for dividend purposes is determined until all taxes, depreciation, maintenance and upkeep expenditures have been deducted; otherwise the dividend is not paid from the earnings, but by a depreciation of the capital." (*Jamaica Water Supply Co.*, 128 App. Div. 13). And according to the Supreme Court in *Helgeson R. R. Co.*, 69 Misc. 653 the amendments of sections 55 and 69 of the Public Service Law in 1910, constitute a legislative recognition of the Commission's system of accounts providing for depreciation charges against income.

pany. This means that the money must be invested in the property as a means of overcoming the current depreciation or deterioration. To the extent that money is spent upon replacements and substitutions, it cannot be made the basis of additional security issues. Any expenditures made for additions and betterments, however, will represent merely temporary use of the depreciation fund which may property be reimbursed by the issue of securities. Such temporary use of a depreciation fund is exemplified in the accounting systems of New York as well as Interstate Commerce Commission and is explicitly recognized by statute in several of the States. In requiring the retention in the property of \$135,000 of proceeds of bonds authorized to be issued for reimbursement, the Commission was not confiscating the property but was merely throwing around the investment of the proceeds to be procured by the sale of securities approved and authorized by the Commission such safeguards as would conserve the investment and prevent its dissipation in unearned dividends through the medium of a fictitious and meaningless surplus account.

A strict construction of the statute might have necessitated a denial of the application particularly in view of the threatened insolvency of the company, under the 80-cent gas law enacted in 1913, to pay interest on additional bonds. There was placed in evidence the affidavit of the president of the company to the effect that the increased price of gas oil, coal, etc., increased taxes, a reduction in revenue from street lighting after the expiration of the existing contract September 2, 1916, etc., would leave the company under the existing rate schedule an income of \$122,453 from which to pay interest and other fixed charges of \$172,468 (Exhibit 13). If the rate for gas were reduced to 80 cents, the deficit would be much greater. But the Commission in the exercise of its discretion took the position that since additional capital was required for necessary increases in facilities, it might be obtained through the issue of mortgage bonds provided such issue should be so safeguarded as to ensure the devotion of the proceeds to improvements in the property which would produce additional revenue. With proper restrictions as to the use of proceeds, the company's fixed charges would be increased only in proportion to the increase in its revenue-producing facilities. The conditions set forth in the order were necessary to carry out that purpose.







**REPORT**  
**OF THE**  
**PUBLIC SERVICE COMMISSION**  
**FOR THE FIRST DISTRICT**  
**OF THE**  
**STATE OF NEW YORK**

**For the Year Ending December 31, 1916**

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**Vol. I**

**Appendix F**  
**Report of the Auditor**

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**ALBANY**  
**J. B. LYON COMPANY, PRINTERS**  
**1917**



# STATE OF NEW YORK

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No. 15

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## IN SENATE

JANUARY 10, 1917

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### REPORT OF THE PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT

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NEW YORK, *January 8, 1917.*

*Honorable EDWARD SCHOENECK, President of the Senate:*

*Honorable THADDEUS C. SWEET, Speaker of the Assembly:*

SIRS.—The Public Service Commission for the First District of the State of New York herewith transmits to the Legislature its report for the year ended December 31, 1916.

Respectfully,

OSCAR S. STRAUS,

*Chairman.*

WILLIAM HAYWARD,

HENRY W. HODGE,

TRAVIS H. WHITNEY,

CHARLES S. HERVEY.

*Commissioners.*



## APPENDIX F

### REPORT OF THE AUDITOR

#### PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT

AUDITOR'S OFFICE, DECEMBER 31, 1916

*The Honorable Public Service Commissioners for the First District, New York.*

GENTLEMEN:—I have the honor to submit herewith my report as Auditor, in relation to the finances and accounts of the Public Service Commission for the First District, for the period January 1, 1916, to December 31, 1916, giving in general and in detail the following:

- I. REQUISITIONS FOR THE GENERAL FUND: (Page 24.) A statement showing the requisitions made upon the Board of Estimate and Apportionment for the authorization of the issue of revenue bonds for the requirements of the Public Service Commission for the First District, from January 1, 1916, to December 31, 1916.
- II. APPROPRIATIONS FOR THE GENERAL FUND: (Pages 26-27.) A statement showing the appropriations made by the Board of Estimate and Apportionment for the purposes of the Public Service Commission for the First District, from January 1, 1916, to December 31, 1916.
- III. DISBURSEMENTS FROM THE GENERAL FUND: (Page 28.) A statement showing the disbursements from the General Fund made under the direction of the Public Service Commission for the First District, from January 1, 1916, to December 31, 1916.
- IV. REQUISITIONS AND APPROPRIATIONS. MANHATTAN-THE BRONX CONSTRUCTION: (Page 29.) A statement showing the requisitions made upon the Board of Estimate and Apportionment for the authorization of the issue of corporate stock of the City of New York, and the appropriations made by the Board of Estimate and Apportionment, the proceeds thereof to be applied to the requirements of the Manhattan-The Bronx Rapid Transit Construction Funds, from January 1, 1916, to December 31, 1916.
- V. CORPORATE STOCK OF THE CITY OF NEW YORK, MANHATTAN-THE BRONX CONSTRUCTION: (Page 30.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Manhattan-The Bronx Rapid Transit Railroad.

VI. DISBURSEMENTS FOR EXTRA WORK DONE AND MATERIALS FURNISHED. MANHATTAN—THE BRONX CONSTRUCTION: (Page 31.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made for extra work done and materials furnished under provision of the contract with John B. McDonald, Contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

VII. DISBURSEMENTS FOR REAL ESTATE. MANHATTAN—THE BRONX CONSTRUCTION: (Page 32.) A statement showing the payments authorized under the direction of the Public Service Commission for the First District made for real estate acquired for and in behalf of the City of New York, under provision of the contract with John B. McDonald, Contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad from January 1, 1916, to December 31, 1916.

VIII. REQUISITIONS AND APPROPRIATIONS. BROOKLYN—MANHATTAN CONSTRUCTION: (Page 33.) A statement showing the requisitions made upon the Board of Estimate and Apportionment for the authorization of the issue of corporate stock of the City of New York, and the appropriations made by the Board of Estimate and Apportionment, the proceeds thereof to be applied to the requirements of the Brooklyn-Manhattan Construction Funds, from January 1, 1916, to December 31, 1916.

IX. CORPORATE STOCK OF THE CITY OF NEW YORK. BROOKLYN—MANHATTAN CONSTRUCTION: (Pages 34, 35.) Statements showing the requisitions for the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the requirements of the Brooklyn-Manhattan Rapid Transit Railroad.

IX-a. Contract Construction and Extra Work.

IX-b. Real Estate.

X. DISBURSEMENTS FOR EXTRA WORK DONE AND MATERIALS FURNISHED. BROOKLYN—MANHATTAN CONSTRUCTION: (Page 36.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made for extra work and materials furnished under provision of the contract with the Brooklyn-Manhattan Transit Subway Construction Company, Contractor, dated February 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**XI. DISBURSEMENTS FOR REAL ESTATE. BROOKLYN-MANHATTAN CONSTRUCTION:** (Page 37.) A statement showing the payments authorized under the direction of the Public Service Commission for the First District to be made for real estate acquired for and in behalf of the City of New York, under provision of the contract with Rapid Transit Subway Construction Company, Contractor, dated July 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**XII. REQUISITIONS AND APPROPRIATIONS FOR THE DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 3) CONSTRUCTION FUNDS:** (Pages 38-47.) A statement showing the requisitions made upon the Board of Estimate and Apportionment for the authorization of the issue of corporate stock of the City of New York, and the appropriations made by the Board of Estimate and Apportionment, the proceeds thereof to be applied to the requirements of the Dual System Rapid Transit Railroad Construction Funds, under provisions of the contract with the Interborough Rapid Transit Company, dated March 19, 1913, and agreements amendatory thereof and supplemental thereto, for the construction and operation of the Dual System Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**XIIa.** Requisitions and appropriations additional to general authorization.

**XIIb.** Requisitions and appropriations supplemental to general authorization.

**XIII. CORPORATE STOCK OF THE CITY OF NEW YORK. PARK PLACE, WILLIAM AND CLARK STREET SUBWAY:** (Pages 48, 49.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Park Place, William and Clark Street Subway.

**XIV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. PARK PLACE, WILLIAM AND CLARK STREET SUBWAY:** (Pages 50, 51.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for the work done and materials furnished under the provisions of the different contracts for the construction of the Park Place, William and Clark Street Subway, from January 1, 1916, to December 31, 1916.

**XV. CORPORATE STOCK OF THE CITY OF NEW YORK. SEVENTH AVENUE BRANCH OF SEVENTH AVENUE-LEXINGTON AVENUE SUBWAY:** (Pages 52-54.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Seventh Avenue Branch of the Seventh Avenue-Lexington Avenue Subway.

**XVI. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. SEVENTH AVENUE BRANCH OF SEVENTH AVENUE-LEXINGTON AVENUE SUBWAY**

**CONSTRUCTION:** (Pages 55-63.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the various contracts for the construction of the Seventh Avenue Branch of the Seventh Avenue-Lexington Avenue Subway, from January 1, 1916, to December 31, 1916.

**XVII. CORPORATE STOCK OF THE CITY OF NEW YORK. LEXINGTON AVENUE BRANCH OF SEVENTH AVENUE-LEXINGTON AVENUE SUBWAY CONSTRUCTION:** (Pages 64-66.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Lexington Avenue Branch of the Seventh Avenue-Lexington Avenue Subway.

**XVIII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. LEXINGTON AVENUE BRANCH OF THE SEVENTH AVENUE-LEXINGTON AVENUE SUBWAY CONSTRUCTION:** (Pages 67-70.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the Lexington Avenue Branch of the Seventh Avenue-Lexington Avenue Subway, from January 1, 1916, to December 31, 1916.

**XIX. CORPORATE STOCK OF THE CITY OF NEW YORK. JEROME AVENUE ROUTE CONSTRUCTION:** (Page 71.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Jerome Avenue Rapid Transit Railroad.

**XX. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. JEROME AVENUE ROUTE:** (Page 72.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the various contracts for the construction of the Jerome Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**XXI. CORPORATE STOCK OF THE CITY OF NEW YORK. SOUTHERN BOULEVARD AND WESTCHESTER AVENUE ROUTE:** (Pages 73, 74.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Southern Boulevard and Westchester Avenue Rapid Transit Railroad.

- XXII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. SOUTHERN BOULEVARD AND WESTCHESTER AVENUE RAILROAD CONSTRUCTION:** (Pages 75, 76.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for the work done and materials furnished under provisions of the different contracts for the construction of the Southern Boulevard and Westchester Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.
- XXIII. CORPORATE STOCK OF THE CITY OF NEW YORK. WHITE PLAINS ROAD LINE CONSTRUCTION:** (Page 77.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the White Plains Road Rapid Transit Railroad.
- XXIV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. WHITE PLAINS ROAD LINE:** (Page 78.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the White Plains Road Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.
- XXV. CORPORATE STOCK OF THE CITY OF NEW YORK. STEINWAY TUNNEL LINE — ROUTES 26, 36-37, 50. CONSTRUCTION:** (Pages 79-81.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Steinway Tunnel Line, Routes Nos. 26, 36-37, 50.
- XXVI. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED QUEENS-ASTORIA, WOODSIDE AND CORONA RAPID TRANSIT RAILROAD:** (Pages 82, 83.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the contracts for the construction of the Queens-Astoria, Woodside and Corona Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.
- XXVII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED STEINWAY TUNNEL ROUTE — ROUTES 26 AND ROUTE 50.** (Page 84.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the contracts for the reconstruction of the Steinway Tunnel Route, from January 1, 1916, to December 31, 1916.

**XXVIII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED.**

**WAY TUNNEL-QUEENSBORO PLAZA EXTENSION:** Route 50. (Pages 85, 86.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission, to be made to various contractors for work done and materials furnished under the provisions of the contracts for the construction of the Steinway Tunnel-Queensboro Plaza Extension, Route 50, from January 1, 1916, to December 31, 1916.

**XXIX. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED.**

**LINGTON AVENUE LINE, 42d STREET CONNECTION:** Routes 43 and 44. (Pages 86, 87.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission, to be made to the various contractors for work done and materials furnished under the provisions of the contracts for the construction of the Lexington Avenue Line-42d Street Connection.

**XXX. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT NO. 2. EASTERN PARKWAY LINE:** (Pages 88-90.) A statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Eastern Parkway Line, under the provisions of Contract No. 3.**XXXI. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT NO. 1. FLATBUSH AVENUE ROUTE.** (Pages 91, 92.) A statement showing the issues of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Flatbush Avenue Route, under the provisions of Contract No. 4.**XXXII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED.**

**EASTERN PARKWAY LINE — CONTRACTS NO. 3 AND NO. 4:** (Pages 92, 93, 97.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the contracts for the construction of the Eastern Parkway Line, Contracts No. 3 and No. 4, from January 1, 1916, to December 31, 1916.

**XXXIII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED.**

**EASTERN PARKWAY LINE — NOSTRAND AVENUE ROUTE:** (Pages 98, 99.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to various contractors for work done and materials furnished under the provisions of the contracts for the construction of the Eastern Parkway Line, Nostrand Avenue Route, from January 1, 1916, to December 31, 1916.

provisions of the contracts for the construction of the Eastern Parkway Line, Nostrand Avenue Route, from January 1, 1916, to December 31, 1916.

**XXXIV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. CONTRACT No. 3—STATION FINISH:** (Pages 100-102.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the contracts for station finish, Contract No. 3, from January 1, 1916, to December 31, 1916.

**XXXV. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT No. 3, TRACK MATERIAL.** (Page 103.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the purchase of track materials for use in the construction of the railroad under Contract No. 3.

**XXXVI. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT No. 3, TRACK INSTALLATION.** (Page 104.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the installation of track in the construction of the railroad under Contract No. 3.

**XXXVII. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT No. 3, REAL ESTATE:** (Page 105.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the acquirement of real estate or interest therein, in the construction of the railroad under Contract No. 3.

**XXXVIII. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT No. 3, MAINTENANCE.** (Page 106.) A statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the maintenance of the completed portions of the railroad pursuant to Contract No. 3.

**XXXIX. DISBURSEMENTS FOR TRACK MATERIAL, CONTRACT No. 3.** (Pages 107-111.) A statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for the supply of track materials under the provisions of Contract No. 3, and the agreement amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

**XL. DISBURSEMENTS FOR TRACK INSTALLATION, CONTRACT No. 3:** (Pages 112, 113.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission,

to be made to the various contractors for the supply of labor necessary in installation of track under the provisions of Contract No. 3, and the agreements amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

**XLI. DISBURSEMENTS FOR REAL ESTATE. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT NO. 3). CONTRIBUTION BY THE CITY OF NEW YORK. CONSTRUCTION: (Page 114-119.)** A statement showing the payments authorized under the direction of the Public Service Commission for the First District to be made for real estate acquired for and in behalf of the City of New York, under provisions of the contract with the Interborough Rapid Transit Company, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Dual System Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**XLII. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT NO. 3. INTEREST ON CORPORATE STOCK ISSUED: (Pages 120, 121.)** A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the payment of interest on corporate stock issued for construction under Contract No. 3.

**XLIII. PAYMENT OF INTEREST ON THE CORPORATE STOCK ISSUED. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT NO. 3). CONTRIBUTION BY THE CITY OF NEW YORK (CURRENT APPROPRIATIONS): (Pages 122, 123.)** A statement showing the payments made under the direction of the City Comptroller and chargeable to construction under Contract No. 3, for the interest due on the corporate stock issued by the City of New York, for the construction of the railroad under Contract No. 3, from January 1, 1916, to December 31, 1916.

**XLIV. REQUISITIONS AND CONTRIBUTIONS. INTERBOROUGH RAPID TRANSIT COMPANY (CONTRACT NO. 3). DUAL SYSTEM RAPID TRANSIT RAILROAD CONSTRUCTION FUNDS: (Pages 124, 125.)** A statement showing the requisitions made upon the Interborough Rapid Transit Company for funds and the contribution made by the Interborough Rapid Transit Company toward the cost of construction of the Dual System Rapid Transit Railroad under provision of Contract No. 3 dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

**XLV. DISBURSEMENTS FOR REAL ESTATE AND CONSTRUCTION. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT NO. 3). CONTRIBUTION BY INTERBOROUGH RAPID TRANSIT COMPANY. (Pages 126, 128.)** A statement showing the payments authorized under the direction of the Public Service Commission for the First District to be made for Real Estate and Construction for and in behalf of the City of New York under the provisions of the contract with Interborough Rapid Transit Company dated March 19, 1913,

and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Dual System Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

- XLVI. REQUISITIONS AND APPROPRIATIONS FOR THE DUAL SYSTEM RAPID TRANSIT RAILROAD CONSTRUCTION FUNDS (CONTRACT NO. 4):** (Pages 129-137.) A statement showing the requisitions made upon the Board of Estimate and Apportionment for the authorization of the issue of corporate stock of the City of New York and the appropriations made by the Board of Estimate and Apportionment, the proceeds thereof to be applied to the requirements of the Dual System Rapid Transit Railroad (Contract No. 4) Construction Funds, under provisions of the contract with the New York Municipal Railway Corporation, dated March 19, 1913, and agreements amendatory thereof and supplemental thereto, for the construction and operation of the Dual System Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.
- XLVI-a. REQUISITIONS AND APPROPRIATIONS ADDITIONAL TO GENERAL AUTHORIZATION:** Pages 129-131.
- XLVI-b. REQUISITIONS AND APPROPRIATIONS SUPPLEMENTAL TO GENERAL AUTHORIZATION:** Pages 132-137.
- XLVII-a. CORPORATE STOCK OF THE CITY OF NEW YORK, BROADWAY SUBWAY (MANHATTAN):** (Pages 128-139.) A statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Broadway Subway.
- XLVII-b. CORPORATE STOCK OF THE CITY OF NEW YORK, CONTRACT NO. 4, EXTRA WORK. CONSTRUCTION:** (Page 140.) A statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the requirements of extra work and materials furnished in the construction of the railroad under Contract No. 4.
- XLVIII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. BROADWAY SUBWAY (MANHATTAN) CONSTRUCTION:** (Pages 141, 142.) A statement showing requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the Broadway (Manhattan) Subway, from January 1, 1916, to December 31, 1916.
- XLIX. CORPORATE STOCK OF THE CITY OF NEW YORK, BROADWAY-59TH STREET SUBWAY (MANHATTAN):** (Pages 143-145.) A statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Broadway-59th Street Subway.

- L. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. BROADWAY-59TH STREET SUBWAY (MANHATTAN) CONSTRUCTION: (Pages 146-148.) A statement showing requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the Broadway-59th Street (Manhattan) Subway, from January 1, 1916, to December 31, 1916.
- LI. CORPORATE STOCK OF THE CITY OF NEW YORK. BROOKLYN-MANHATTAN LOOP LINES (MANHATTAN SECTIONS) CONSTRUCTION: (Page 149.) A statement showing the issues of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Brooklyn-Manhattan Loop Lines (Manhattan Sections).
- LII. DISBURSEMENTS FOR REAL ESTATE. BROOKLYN-MANHATTAN LOOP LINES (MANHATTAN SECTIONS) CONSTRUCTION: (Page 150.) A statement showing the payments authorized under the direction of the Public Service Commission for the First District to be made for real estate acquired for and in behalf of the City of New York, under provisions of the various contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Brooklyn-Manhattan Loop Lines (Manhattan Sections) from January 1, 1916, to December 31, 1916.
- LIII. CORPORATE STOCK OF THE CITY OF NEW YORK. WHITEHALL-MONTAGUE STREET-EAST RIVER TUNNEL CONSTRUCTION: (Pages 151-153.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Whitehall-Montague Street Subway.
- LIII-a. CONTRACT No. 3. (FULTON STREET SECTION, ROUTE 33, SECTION 3.)
- LIII-b. CONTRACT No. 4. (ROUTE 33, SECTIONS 1, 2, 3.)
- LIV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED (WHITEHALL-MONTAGUE STREET ROUTE). CONSTRUCTION: (Pages 154, 155.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the Whitehall-Montague Street Route, from January 1, 1916, to December 31, 1916.
- LV. CORPORATE STOCK OF THE CITY OF NEW YORK. CANAL STREET ROUTE CONSTRUCTION: (Page 156.) A statement showing the issues of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Canal Street Subway.

**LVI. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. CANAL STREET ROUTE CONSTRUCTION:** (Page 157.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the Canal Street Route of the Broadway-Fourth Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**LVII. CORPORATE STOCK OF THE CITY OF NEW YORK. BROOKLYN (FOURTH AVENUE) SUBWAY CONSTRUCTION:** (Page 158.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Brooklyn (Fourth Avenue) Subway.

**LVIII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. BROOKLYN (FOURTH AVENUE) SUBWAY CONSTRUCTION:** (Page 159) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the Brooklyn (Fourth Avenue) Subway, from January 1, 1916, to December 31, 1916.

**LIX. CORPORATE STOCK OF THE CITY OF NEW YORK. NEW UTRICHT AVENUE ROUTE. CONSTRUCTION:** (Page 160.) A statement showing the issues of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the New Utrecht Avenue Elevated Railroad, Brooklyn.

**LX. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. NEW UTRICHT AVENUE ROUTE. CONSTRUCTION:** (Page 161.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the different contracts for the construction of the New Utrecht Avenue Elevated Railroad, Brooklyn, from January 1, 1916, to December 31, 1916.

**LXI. CORPORATE STOCK OF THE CITY OF NEW YORK. CONTRACT NO. 4, CULVER LINE-GRAVESEND AVENUE — ROUTE NO. 49. CONSTRUCTION:** (Page 162.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Culver Line-Gravesend Avenue — Route No. 49.

- LXII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. CULVER LINE-GRAVESEND AVENUE — ROUTE No. 49.** (Page 163.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the contracts for the construction of the Culver Line-Gravesend Avenue Route, from January 1, 1916, to December 31, 1916.
- LXIII. CORPORATE STOCK OF THE CITY OF NEW YORK. (CONTRACT No. 4.) QUEENS LINES — ROUTE 61 AND R 36 AND 37. CONSTRUCTION.** (Page 164.) A statement showing the issues of corporate stock of the City of New York from January 1, 1916 to December 31, 1916, the proceeds thereof to be applied to the construction of the railroad under Contract No. 4, Queens Lines, parts of Route 36, 37 and R 61.
- LXIV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. BLACKWELLS ISLAND TUNNEL.—ROUTE 61.** (Page 165.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the contract for the construction of the Blackwells Island Tunnel Route 61, from January 1, 1916 to December 31, 1916.
- LXV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. QUEENS-ASTORIA, WOODSIDE AND CORONA RAPID TRANSIT RAILROAD (CONTRACT No. 4).** (Page 166.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the contracts for the construction of the Queens-Astoria, Woodside and Corona Rapid Transit Railroad, Routes 36 and 37, Contract No. 4 portion, from January 1, 1916 to December 31, 1916.
- LXVI. CORPORATE STOCK OF THE CITY OF NEW YORK (CONTRACT No. 4). FOURTEENTH STREET—EASTERN LINE — ROUTE 8. CONSTRUCTION.** (Page 167.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Fourteenth Street—Eastern Line.
- LXVII. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED. FOURTEENTH STREET—EASTERN LINE — ROUTE 8.** (Page 168.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the contracts for the construction of the Fourteenth Street—Eastern Line, Route 8, from January 1, 1916, to December 31, 1916.

- LXVIII. CORPORATE STOCK OF THE CITY OF NEW YORK. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONSTRUCTION:** (Pages 169, 170.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the requirements of work done and materials furnished in the completion of construction and station finish of parts of the Dual System Transit Railroad under Contract No. 4.
- LXIX. CORPORATE STOCK OF THE CITY OF NEW YORK. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONSTRUCTION:** (Page 171.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the acquirement of real estate and interest therein in the construction of the Dual System Rapid Transit Railroad under Contract No. 4.
- LXX. CORPORATE STOCK OF THE CITY OF NEW YORK. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONSTRUCTION:** (Page 172.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the purchase of track materials for use in the construction of the railroad under Contract No. 4.
- LXXI. CORPORATE STOCK OF THE CITY OF NEW YORK. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONSTRUCTION:** (Page 173.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the installation of track in the construction of the railroad under Contract No. 4.
- LXXII. CORPORATE STOCK OF THE CITY OF NEW YORK. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONSTRUCTION:** (Pages 174, 175.) A statement showing the issues of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the payment of interest on corporate stock issued for construction under Contract No. 4.
- LXXIII. DISBURSEMENTS FOR TRACK MATERIAL AND TRACK INSTALLATION UNDER CONTRACT No. 4. CONTRIBUTION BY CITY OF NEW YORK.** (Pages 176-179) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the said Public Service Commission to be made to the various contractors for work done and materials furnished for track and track installation under the provisions of Contract No. 4, from January 1, 1916, to December 31, 1916.

**LXXIV. DISBURSEMENTS FOR WORK DONE AND MATERIALS FURNISHED (CONTRACT No. 4). COMPLETION OF CONSTRUCTION AND STATION FINISH (FOURTH AVENUE LINE).** (Pages 180, 181.) A statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of said Public Service Commission to be made to the various contractors for work done and materials furnished under provisions of the contracts for the completion of construction and station finish, Brooklyn-Fourth Avenue Line, from January 1, 1916, to December 31, 1916.

**LXXV. DISBURSEMENTS FOR REAL ESTATE. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONTRIBUTION BY THE CITY OF NEW YORK. CONSTRUCTION:** (Pages 182-185.) A statement showing the payments authorized under the direction of the Public Service Commission for the First District to be made for real estate acquired for and in behalf of the City of New York under provisions of the contract with the New York Municipal Railway Corporation dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Dual System Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**LXXVI. PAYMENT OF INTEREST ON THE CORPORATE STOCK ISSUED. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONTRIBUTION BY THE CITY OF NEW YORK (CURRENT APPROPRIATIONS):** (Pages 186, 187.) A statement showing the payments made under the direction of the City Comptroller and chargeable to construction under Contract No. 4, for the interest due on the corporate stock issued by the City of New York, for the construction of the railroad under Contract No. 4, from January 1, 1916, to December 31, 1916.

**LXXVII. REQUISITIONS AND CONTRIBUTIONS. NEW YORK MUNICIPAL RAILWAY CORPORATION (CONTRACT No. 4). DUAL SYSTEM RAPID TRANSIT RAILROAD CONSTRUCTION FUNDS:** (Pages 188, 189.) A statement showing the requisitions made upon the New York Municipal Railway Corporation for funds and the contributions made by the New York Municipal Railway Corporation toward the cost of construction of the Dual System Rapid Transit Railroad under provision of Contract No. 4, dated March 19, 1913, and agreements amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

**LXXVIII. DISBURSEMENTS FOR REAL ESTATE. DUAL SYSTEM RAPID TRANSIT RAILROAD (CONTRACT No. 4). CONTRIBUTION BY NEW YORK MUNICIPAL RAILWAY CORPORATION. CONSTRUCTION:** (Pages 190.) A statement showing the payments authorized under the direction of the Public Service Commission for the First District to be made for real estate acquired for and in behalf of the City of New York under provisions of the contract with New York Municipal Railway Corpora-

tion dated March 19, 1913, and agreements amendatory thereof and supplemental thereto, for the construction and operation of the Dual System Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

**LXXIX. SPECIAL ACCOUNT. REAL ESTATE.** (Pages 191, 192.) A statement of the proceeds of the sale of property, and the rentals for leases of property acquired for rapid transit purposes, upon deposit with the Chamberlain of the City of New York, and available for the purchase of other property under the direction of the Public Service Commission for the First District, December 31, 1916.

**LXXX. SECURITY.** Statements relative to the securities deposited under the provisions of the various contracts for railroad construction and operation, viz.:

1. Manhattan-The Bronx Contract. (Page 193.)
2. Brooklyn-Manhattan Contract. (Page 194.)
3. Interborough Rapid Transit Company. Contract No. 3. (Page 195.)
4. New York Municipal Railway Corporation. Contract No. 4. (Page 196.)
5. Seventh Avenue-Lexington Avenue Line (Seventh Avenue Branch). (Pages 197, 198.)
6. Seventh Avenue-Lexington Avenue Line (Park Place, William and Clark Street Route). (Page 199.)
7. Seventh Avenue-Lexington Avenue Line (Lexington Avenue Branch). (Pages 200-203.)
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9. Seventh Avenue-Lexington Avenue Line (Southern Boulevard-Westchester Avenue Route). (Page 205.)
10. White Plains Road Line. (Page 206.)
11. Steinway Tunnel Line. (Pages 207-209.)
- 12a. Eastern Parkway Line. (Pages 210, 211.)
- 12b. Broadway Fourth Avenue Line (Flatbush Avenue Route). (Page 212.)
13. Broadway-Fourth Avenue Line (Broadway Branch). (Pages 213, 214.)
14. Broadway-Fourth Avenue Line (Broadway-59th Street Route). (Pages 215, 216.)
15. Broadway-Fourth Avenue Line, Brooklyn-Manhattan Loop Lines (Manhattan Sections). (Pages 217-219.)
16. Broadway-Fourth Avenue Line, Brooklyn (Fourth Avenue) Subway. (Pages 218, 219.)
17. Broadway-Fourth Avenue Line (New Utrecht Avenue Branch). (Page 220.)
18. Broadway-Fourth Avenue Line (Whitehall-Montague Street Route). (Page 221.)

19. Broadway-Fourth Avenue Line (Canal Street Route). (Page 222.)
20. Culver Line (Gravesend Avenue Route). (Page 223.)
21. Fourteenth Street-Eastern Line. (Pages 224, 225.)

LXXXI. RENTAL: Statements showing the rental received by the City Comptroller under leases by the City of New York of the following railroads, viz.:

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- b. Brooklyn-Manhattan Rapid Transit Railroad. (Page 227.)

LXXXII. TRUST FUNDS ACCOUNTS: (Page 228.) Statements in relation to the funds collected by the Public Service Commission for the First District, New York, from January 1, 1916, to December 31, 1916.

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  - c. Electric Meter Account.
  - d. Official Fees Account.
2. Litigation: Suspense Account.

LXXXIII. RECAPITULATION OF THE FOLLOWING ACCOUNTS, VIZ.:

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2. General Fund — Requisitions and Appropriations, 1907-1915. (Page 230.)
3. General Fund — Disbursements, 1894-1907. (Page 231.)
4. General Fund — Disbursements, 1907-1915. (Pages 232, 233.)
5. Engineering and Other Expenses — Refund to General Fund. (Page 234.)

*Requisitions and Appropriations:*

6. Manhattan-The Bronx Construction Fund, 1900-1914. (Pages 235-239.)
7. Brooklyn-Manhattan Construction Fund, 1902-1915. (Pages 240, 241.)
8. Brooklyn-Manhattan Loop Lines (Manhattan Sections) Construction Funds, 1907-1914. (Pages 242-245.)
9. Brooklyn (Fourth Avenue) Subway Construction Funds, 1908-1914. (Pages 246-249.)
10. Lexington Avenue Subway Construction Funds, 1911-1914. (Pages 250-252.)
11. Rapid Transit Construction Fund — The Bronx (Southern Boulevard and Westchester Avenue Route), 1913. (Page 253.)
12. Rapid Transit Construction Fund — Queens-Astoria, Woodside and Corona Rapid Transit Railroad, 1913. (Page 254.)
13. Rapid Transit Construction Fund — Interborough Rapid Transit Company (Contract No. 3), City Contribution 1913-1915. (Page 255.)

14. Rapid Transit Construction Fund—New York Municipal Railway Corporation (Contract No. 4), City Contribution 1913-1915. (Page 256.)

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2. Corporate Stock—Brooklyn-Manhattan Construction Fund. (Page 258.)
3. Corporate Stock—Seventh Avenue-Lexington Avenue Line (Seventh Avenue Branch) Construction Funds. (Pages 259, 260.)
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5. Corporate Stock—Seventh Avenue-Lexington Avenue Line (Lexington Avenue Branch) Construction Funds. (Pages 262-264.)
6. Corporate Stock—Seventh Avenue-Lexington Avenue Line (Jerome Avenue Route) Construction Funds. (Page 265.)
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9. Corporate Stock—Steinway Tunnel Line (Astoria, Woodside and Corona Route) Construction Funds. (Page 268, 269.)
10. Corporate Stock—Eastern Parkway Line Construction Funds. (Pages 270, 271.)
11. Corporate Stock—Contract No. 3, City of New York Construction Funds—General. (Page 272.)
12. Corporate Stock—Broadway Subway Construction Funds. (Pages 273, 274.)
13. Corporate Stock—Broadway-Fifty-ninth Street Subway Construction Funds. (Page 275.)
14. Corporate Stock—Broadway-Fourth Avenue Line Construction Funds. (Queens Lines.) Pages 277.
15. Corporate Stock—Brooklyn-Manhattan Loop Lines (Manhattan Sections) Construction Funds. (Pages 277, 278.)
16. Corporate Stock—Broadway-Fourth Avenue Line (Whitehall-Montague Street Route) Construction Funds. (Page 279.)
17. Corporate Stock—Broadway-Fourth Avenue Line (Canal Street Route) Construction Funds. (Page 280.)
18. Corporate Stock—Broadway-Fourth Avenue Line, Brooklyn (Fourth Avenue Subway) Construction Funds. (Pages 281-283.)
19. Corporate Stock—Broadway-Fourth Avenue Line (New Utrecht Avenue Route) Construction Funds. (Page 284.)
20. Corporate Stock—Culver Line. (Page 285.)
21. Corporate Stock—Fourteenth Street-Eastern Line. (Page 286.)
22. Corporate Stock—Contract No. 4, City of New York Construction Funds. (Page 288.)

## LXXXV. RECAPITULATION — DISBURSEMENTS:

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2. Brooklyn—Manhattan Construction Fund. (Page 290.)
3. Seventh Avenue—Lexington Avenue Line (Seventh Avenue Branch) Construction Funds. (Pages 291, 292.)
4. Seventh Avenue—Lexington Avenue Line (Park Place, William and Clark Street Route) Construction Funds. (Page 293.)
5. Seventh Avenue—Lexington Avenue Line (Lexington Avenue Subway) Construction Funds. (Pages 294-297.)
6. Seventh Avenue—Lexington Avenue Line (Jerome Avenue Branch) Construction Funds. (Page 298.)
7. Seventh Avenue—Lexington Avenue Line (Southern Boulevard—Westchester Avenue Route) Construction Funds. (Page 299.)
8. White Plains Road Line Construction Funds. (Page 300.)
9. Steinway Tunnel Line (Astoria, Woodside and Corona Route) Construction Funds. (Page 301.)
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11. Lexington Avenue and Steinway Tunnel Diagonal Connection, Routes 43 and 26. (Page 303.)
12. Eastern Parkway Line Construction Funds. (Page 304.)
13. Contract No. 3 — Contribution by City of New York.
  - a. Station Finish. (Page 305.)
  - b. Real Estate. (Page 306.)
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15. Broadway—Fourth Avenue Line (Broadway Route) Construction Funds (Pages 308, 309.)
16. Broadway—Fourth Avenue Line (Broadway Fifty-ninth Street Route). Construction Funds. (Pages 310, 311.)
17. Broadway—Fourth Avenue Line (Brooklyn—Manhattan Loop Lines) Construction Funds. (Pages 312-314.)
18. Broadway—Fourth Avenue Line (Whitehall—Montague Street Route) Construction Funds. (Page 315.)
19. Broadway—Fourth Avenue Line (Canal Street Route). Construction Funds. (Page 316.)
20. Broadway—Fourth Avenue Line Brooklyn (Fourth Avenue Subway) Construction Funds. (Pages 317-320.)
21. Flatbush Avenue Line. (Page 321.)
22. Broadway—Fourth Avenue Line (New Utrecht Avenue Elevated Line) Construction Funds. (Page 322.)
23. Culver Line. (Page 323.)
24. Queens. (Page 324.)
25. Fourteenth Street—Eastern. (Page 325.)
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27. Track Materials, Track Installation and Real Estate Pages 328, 329.)
28. Contract No. 4 — Contribution by the New York Municipal Railway Corporation — Real Estate Construction Funds. (Page 330.)

**LXXXVI. Trust Funds Accounts:**

- (a) Trust Funds, State of New York. (Page 331.)
- (b) Trust Funds, City of New York. (Page 332.)

**Summary of Disbursements:**

**LXXXVII. Contract No. 3 — Interborough Rapid Transit Co. (Page 333.)**

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**LXXXIX. General Summary, 1894-1916. (Page 335.)**

## GENERAL FUND

## I. REQUISITIONS

Statement of requisitions made upon the Board of Estimate and Apportionment for the issue of special revenue bonds for the requirements of the Public Service Commission for the First District, from January 1, 1916, to December 31, 1916.

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December 7, 1915.—As stated on page 1835 of the minutes of the Public Service Commission, expenses for the year ending December 31, 1916...	\$1,000,000 00
April 6, 1916.—As stated on page 515 of the minutes, additional expenses for the year ending December 31, 1916.....	1,000,000 00
June 12, 1916.—As stated on page 939 of the minutes, additional expenses for the year ending December 31, 1916.....	1,000,000 00
October 5, 1916.—As stated on page 1669 of the minutes, additional expenses for the year ending December 31, 1916.....	700,000 00
*January 20, 1916.—As stated on page 81 of the minutes, to provide for unliquidated expenses for the year ending December 31, 1915.....	40,000 00
November 5, 1915.—As stated on page 1689 of the minutes, for the purpose of reconstructing manholes, and repairing manhole heads on the pipe galleries in Kenmare and Delancey streets (Sections 9-0-4 and 9-0-5).....	3,700 00
January 20, 1916.—As stated on page 106 of the minutes, for the maintenance and repair of pipe galleries, Centre Street Loop Lines, Manhattan..	500 00

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Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District, from January 1, 1916, to December 31, 1916....., \$3,744,200 00

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\*Original requisition for \$50,000 reduced by Board of Estimate and Apportionment to \$40,000.

## GENERAL FUND — Continued

## II. APPROPRIATIONS

Statement showing the appropriations authorized by the Board of Estimate and Apportionment, and the issue of Special Revenue Bonds by the City Comptroller, the proceeds thereof to be applied to the requirements of the Public Service Commission for the First District, from January 1, 1916, to December 31, 1916.

DATE	Amount	Issue of revenue bonds	Proceeds deposited in the city treasury	Total
January 5, 1911. Additional expenses for the year ending December 31, 1910. As stated on page 92 of the minutes of the Board of Estimate and Apportionment.	\$500 00	.....	.....	.....
October 5, 1911. Additional expenses for borings and surveys along various proposed routes. As stated on page 4073 of the minutes of the Board of Estimate and Apportionment.	4,000 00	.....	.....	.....
May 28, 1915. Additional expenses for borings and surveys along various proposed routes. As stated on page 3357 of the minutes of the Board of Estimate and Apportionment.	10,000 00	.....	.....	.....
April 16, 1915. Additional expenses for the year ending December 31, 1914. As stated on page 2381 of the minutes of the Board of Estimate and Apportionment.	17,400 00	2½% bonds, redeemable 1917. ....	Feb. 29, 1916	\$400 00
October 22, 1915. Additional expense for the year ending December 31, 1915. As stated on page 6590 of the minutes of the Board of Estimate and Apportionment.	\$17,000 00	3% bonds, redeemable 1917. ....	Jan. 7, 1916	\$1,733 50
		2½% bonds, redeemable 1917. ....	Jan. 7, 1916	8,206 50
		2½% bonds, redeemable 1917. ....	Jan. 13, 1916	2,000 00
		2½% bonds, redeemable 1917. ....	Feb. 17, 1916	5,000 00
		2½% bonds, redeemable 1917. ....	Feb. 24, 1916	11,945 94
		2½% bonds, redeemable 1917. ....	Feb. 24, 1916	3,054 05
		2½% bonds, redeemable 1917. ....	Feb. 29, 1916	15,000 00
		2½% bonds, redeemable 1917. ....	Mar. 15, 1916	2,000 00
		3% bonds, redeemable 1917. ....	July 7, 1916	1,000 00
February 18, 1916. Additional expenses for the year ending December 31, 1915. As stated on page 787 of the minutes of the Board of Estimate and Apportionment.	40,000 00			
	\$57,000 00			50,000 00





## GENERAL FUND — Concluded

## III. DISBURSEMENTS

Statement showing the disbursements made under the direction of the Public Service Commission for the First District, from January 1, 1916 to December 31, 1916.

State Funds: Commissioners, counsel and secretary.	General Account	Commis- sioners and staff	Secretary's Office	Legal Depart- ment	Bureau of Statistics and Accounts	Bureau of Gas and Electricity	Bureau of Equipment Inspection	Bureau of Transit Inspection	Engineering Department	Total
City Funds:										\$88,951 62
Advertising.....	\$3,411 60						\$10 50		\$77 55	\$3,489 65
Auto equipment.....	2,640 00						360 30		820 00	8,620 30
Auto repairs and replacements.....	3,078 16						50 80		2,752 79	5,881 75
Auto rent of garage.....	925 16						36 00		1,013 00	1,974 16
Employer's disbursements.....		\$336 13	\$2,269 98	\$192 06	\$64 70	\$1,241 06	5,512 71	\$5,787 17	35,010 31	50,414 12
Engineering instruments and apparatus.....	26 00					5,037 18	1,067 57	9 40	3,916 62	10,056 77
Supplies (other than station- ery).....	81 28	23 64	108 13		25 37	297 27	840 28	50 38	20,810 53	22,236 87
Instrument repairs.....					8 50		21 85	2 15	1,550 38	1,582 88
Express cartage and messenger Furniture and fixtures.....	824 73	146 91	242 43	136 37	62 75	33 04	121 81	55 20	1,550 88	3,174 07
Furniture and fixtures.....	1,054 16	1,782 91	8,036 27	604 49	289 64	144 92	469 13	65 36	15,736 95	23,108 53
Library.....	336 05	340 89	231 12	12 26	19 05	14 00	104 67	63 15	1,432 17	2,652 28
Light, heat and power.....	452 92	10 00	368 69	315 07	17 60	120 00			23 50	1,188 98
Maintenance work.....	538 51	16 75	72 41	1 00	177 21	26 66	296 55	78 72	3,737 09	13,737 09
Maps and prints.....	2,205 83	72 27	38 06	47 00	45 46	184 96	6 63		2,817 74	27,958 06
Postage.....	34,101 39	303 80	1,425 91	173 68	177 07	265 64	37 80	31 00	5,792 37	2,817 74
Printing.....	75 00			69 55			622 04	265 62	2,096 58	4,851 64
Rent estate search and surveys.....	9,015 31	6,801 76	9,453 88	6,708 80	4,050 40	1,139 44	9,904 68	2,588 32	1,220 00	43,127 02
Salaries.....	20,908 75	164,995 39	54,080 21	63,648 96	44,839 80	157,486 44	9,904 68	2,588 32	110,430 65	180,115 24
Special service.....	13,517 82	375 00	213 00	54,080 21	63,648 96	44,839 80	157,486 44	68,002 40	2,625,786 84	3,200,725 59
Stationery.....	232 62	155 11	2,846 00	337 31	368 26	180 29	796 55	120 56	24,578 15	39,430 47
Surgical supplies.....	99 59						796 55		8,094 27	13,101 03
Telephone and telegraph.....	81 94	358 12	1,158 46	480 89	200 97	113 47	377 10	262 90	11,394 58	14,433 43
Traveling.....	3 50	14 20	117 11	23 09	95 08	18 64	93 17	34 22	2,141 75	2,141 75
Towel service.....	129 49	201 52	164 13	89 74	56 83	32 22	70 39		1,663 08	2,394 04
Water and ice.....	129 23	143 55	210 91	417 08	107 43	222 27	110 76	76 83	4,068 55	4,892 55
Miscellaneous.....							110 76	11 64	1,068 48	2,441 80
<b>Totals.....</b>	<b>\$73,080 59</b>	<b>\$31,991 11</b>	<b>\$187,615 38</b>	<b>\$93,888 60</b>	<b>\$69,392 56</b>	<b>\$53,740 56</b>	<b>\$178,441 45</b>	<b>\$78,502 60</b>	<b>\$2,915,279 44</b>	<b>\$3,681,872 09</b>

\* Test borings, \$2,141.75.      † Maintenance, \$3,737.09.

## MANHATTAN-THE BRONX CONSTRUCTION FUND

## IV. REQUISITIONS AND APPROPRIATIONS

Statement of the requisitions made upon the Board of Estimate and Apportionment, for the authorization of the issue of corporate stock of the City of New York and the appropriations made by the Board of Estimate and Apportionment, the proceeds thereof to be applied to the requirements of the Manhattan-The Bronx Construction Fund under provision of the contract with John B. McDonald, Contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

No.	Authorization	Amount	Appropriation	Amount
†33	December 7, 1915. As stated on page 1839 of the minutes of the Public Service Commission for the First District, viz.: Extra work—to provide for installing ventilating outlets for existing manholes and additional ladders and stairways to be used as emergency passenger exits.....	\$302,700 00	July 27, 1916. As stated on page 4596 of the minutes of the Board of Estimate and Apportionment.....	\$302,700 00
Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District in the construction of the Manhattan-The Bronx Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....		\$302,700 00	Total amount of appropriations made by the Board of Estimate and Apportionment, the proceeds to be applied to the construction of the Manhattan-The Bronx Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....	\$302,700 00

**MANHATTAN-THE BRONX CONSTRUCTION FUND — Continued**  
**CORPORATE STOCK**

**V. CONTRACT CONSTRUCTION AND EXTRA WORK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Manhattan-The Bronx Rapid Transit Railroad.

NUMBER	Date of sale	Interest rate %	Maturity	Issues of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Entire route.....	Dec. 20, 1916	3	June 30, 1917	Dec. 22, 1916	.....	\$3,500 00	.....	\$3,500 00	\$3,500 00
	Feb. 25, 1916	2½	April 25, 1916	April 11, 1916	.....	12,400 00	.....	\$12,400 00	
			Rescindment	June 26, 1916	.....	16 00	.....	16 00	
	Feb. 25, 1916	2½	April 25, 1916	June 26, 1916	.....	115 00	.....	\$115 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Manhattan-The Bronx Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.....									\$16,000 00

**MANHATTAN-THE BRONX CONSTRUCTION FUND — Continued**  
**DISBURSEMENTS**  
**VI. EXTRA WORK**

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorised under the direction of the Public Service Commission, to be made for extra work done and materials furnished under provision of the contract with John B. McDonald, Contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad of the City of New York, from January 1, 1916, to December 31, 1916.

Requisition	To date	Payments authorized	To contractor	Amount	Total
Extra work—Connecting passageway between Brooklyn Bridge Station and Chambers Street Loop Station.....	No. 4. Supplementary. Final.....	April 30, 1916			
		June 8, 1916			
		As stated on page 933 of the minutes of the Public Service Commission.....	Rapid Transit Subway Construction Co., Assignee.....	\$187 32	\$187 32
Extra work—Removal of certain stairways and construction of certain additional stairways at Manhattan Street Station.....	No. 1. Final.	July 31, 1915			
		Feb. 17, 1916			
		As stated on page 271 of said minutes.....	Rapid Transit Subway Construction Co., Assignee.....	12,450 00	12,450 00
Extra work—Construction of an additional stairway at the northeast corner of Freeman street and Southern boulevard, Freeman Street Station.....	No. 1. Final.	Oct. 31, 1916			
		Nov. 29, 1916			
		As stated on page 1903 of said minutes.....	Rapid Transit Subway Construction Co., Assignee.....	2,287 06	2,287 06
Total amount paid for extra work done and materials furnished under provision of the contract with John B. McDonald, Contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....				\$14,924 38	\$14,924 38

**MANHATTAN-THE BRONX CONSTRUCTION FUND****DISBURSEMENTS****VII. REAL ESTATE**

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made for real estate acquired for and in behalf of the City of New York, under the provision of the contract with John B. McDonald, Contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

DISBURSEMENTS	Amount	Total
Special Services		
Compensation of real estate appraiser for services rendered the City of New York in the matter of appraisal of certain services rendered by other experts in the matter of acquiring certain easements necessary in the construction of the railroad, viz.:		
Easements — On Westchester avenue, Southern boulevard, and Boston road, etc., in the Borough of The Bronx.....	.....	\$1,000 00
Total amount paid for real estate acquired under provision of the contract with John B. McDonald, contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....	.....	\$1,000 00

## BROOKLYN-MANHATTAN CONSTRUCTION FUND

## VIII. REQUISITIONS AND APPROPRIATIONS

Statement of the requisitions made upon the Board of Estimate and Apportionment for the authorization of the issue of corporate stock of the City of New York and the appropriations made by the Board of Estimate and Apportionment, the proceeds thereof to be applied to the requirements of the Brooklyn-Manhattan Construction Fund, under provision of the contract with Rapid Transit Subway Construction Company, Contractor, dated July 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad of the City of New York, from January 1, 1916, to December 31, 1916.

No.	Authorization	Amount	Appropriation	Amount
15	December 7, 1915. As stated on page 1839 of the minutes of the Public Service Commission for the First District, viz.: Extra work — To provide for installing ventilating outlets for existing manholes and additional ladders and stairways to be used as emergency passenger exits.....	\$7,300 00	July 27, 1916. As stated on page 4597 of the minutes of the Board of Estimate and Apportionment.....	\$7,300 00
	Feb. 10, 1916. As stated on page 180 of the minutes of the Public Service Commission for the First District, viz.: Extra work — To provide for the construction of an additional stairway at Maiden lane and Broadway to the uptown platform of the Fulton street subway station.....	11,000 00	Sept. 29, 1916. As stated on page 5499 of the minutes of the Board of Estimate and Apportionment.....	11,000 00
	Recindment July 13, 1916. As stated on page 1108 of the minutes of the Public Service Commission for the First District, viz.: Resolution of April 27, 1912, rescinded. Extra work — Additional stairway at John street and Broadway to the uptown platform of the Fulton street subway station.....	\$18,300 00		\$18,300 00
		8,000 00	Sept. 29, 1916. As stated on page 5497 of the minutes of the Board of Estimate and Apportionment.....	8,000 00
	Net amount of requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District, in the construction of the Brooklyn-Manhattan Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.	\$10,300 00	Net amount of appropriations made by the Board of Estimate and Apportionment, the proceeds to be applied to the construction of the Brooklyn-Manhattan Railroad, from January 1, 1916, to December 31, 1916.....	\$10,300 00

**BROOKLYN-MANHATTAN CONSTRUCTION FUND — Continued**  
**CORPORATE STOCK**

**IXa. CONTRACT CONSTRUCTION AND EXTRA WORK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Brooklyn-Manhattan Rapid Transit Railroad.

NUMBER	Date of sale	Interest rate %	Maturity	Issues of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Entire route.....	June 15, 1916	4	Dec. 31, 1915	Jan. 5, 1916	.....	\$11,000 00	.....	\$11,000 00	\$21,000 00
	Jan. 8, 1916	2½	Mar. 6, 1916	Jan. 17, 1916	.....	1,000 00	.....	1,000 00	
	June 15, 1915	4	July 20, 1915	Jan. 17, 1916	.....	8,000 00	.....	8,000 00	
	Mar. 17, 1916	2½	May 16, 1916	Dec. 6, 1916	.....	1,000 00	.....	1,000 00	
Total amount of proceeds applicable to the construction of the Brooklyn-Manhattan Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.....									
									\$21,000 00

## BROOKLYN-MANHATTAN CONSTRUCTION FUND — Continued

## CORPORATE STOCK — Concluded

## IXb. REAL ESTATE AND INTEREST THEREIN

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the acquirement of real estate or interest therein in the construction of the Brooklyn-Manhattan Rapid Transit Railroad.

NUMBER	Date of sale	Interest rate %	Maturity	Issue of Stock					Total	
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited		
Entire route.....	Mar. 17, 1916	2½	May 16, 1916	Mar. 20, 1916	.....	\$3,000 00	.....	\$3,000 00	\$5,000 00	
	Mar. 17, 1916	2½	May 16, 1916	June 26, 1916	.....	1,000 00	.....	1,000 00		
	Mar. 17, 1916	2½	May 16, 1916	Nov. 13, 1916	.....	1,000 00	.....	1,000 00		
Total amount of proceeds applicable to the acquisition of real estate and interest therein in the construction of the Brooklyn-Manhattan Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....										\$5,000 00

**BROOKLYN-MANHATTAN CONSTRUCTION FUND — Continued**  
**DISBURSEMENTS**

**X. EXTRA WORK**

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made for extra work done and materials furnished under provision of the contract with the Rapid Transit Subway Construction Company, Contractor, dated July 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad of the City of New York, from January 1, 1916, to December 31, 1916.

Requisition	To date	Payments authorized		To contractor	Amount	Total
Extra work — Changes in sidewalk grating and reconstruction of ventilating chamber on Fulton street near Jay street, Brooklyn.....	No. 1. Final.	Oct. 31, 1916	Nov. 20, 1916	As stated on page 1993 of the minutes of the Public Service Commission.....		
				Interborough Rapid Transit Company, Assignee.....	\$979 23	\$979 23
Total amount paid for extra work done and materials furnished under provision of the contract with the Rapid Transit Subway Construction Company, Contractor, dated July 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.....						\$979 23

**BROOKLYN-MANHATTAN CONSTRUCTION FUND—*Concluded*****DISBURSEMENTS****XI. REAL ESTATE**

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made for real estate acquired for and in behalf of the City of New York, under provision of the contract with Rapid Transit Subway Construction Company, Contractor, dated July 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

DISBURSEMENTS	Amount	Total
<b>Clerical Service</b>		
Easements—Lands under Joralemon and other streets in the Borough of Brooklyn:		
Clerical services rendered the commissioners of appraisal, appointed by the Appellate Division of the Supreme Court, Second Judicial District, in the above proceedings.....	\$1,800 00	
Stenographic services rendered the commissioners of appraisal in the above proceedings.....	1,109 40	
Telephone service furnished for purposes of the commissioners of appraisal in the above proceedings.....	30 04	\$3,939 44
<b>Special Service</b>		
Easements—Lands under Joralemon and other streets in the Borough of Brooklyn:		
Compensation to consulting engineers for services rendered the commissioners of appraisal, appointed by the Appellate Division of the Supreme Court, Second Judicial District, in the above proceedings....	\$2,280 00	
Compensation for experts in the examination and translation of records relative to the titles of various lands, and services rendered the commissioners of appraisal in the above proceedings.....	500 00	\$2,780 00
Total amount paid for real estate acquired under provision of the contract with the Rapid Transit Subway Construction Company, contractor, dated July 21, 1902, and the agreements amendatory thereof and supplemental thereto for the construction and operation of the Brooklyn-Manhattan Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....		\$5,699 44



<p>authorizations reduced to suffice the purposes of the original requisitions.</p> <p>Contract construction, Lexington Avenue Line, Route 5, Section 9, \$49,000.</p> <p>Amount rescinded to be applied to the unexpended sum remaining of the appropriation of \$28,200,000 and effecting no change in the additional sum necessary for the purpose of carrying out the city's obligation under the contract known as Contract No. 3, \$49,000.</p> <p>As stated on page 1184 of the minutes of the Public Service Commission for the First District, viz:</p> <p>Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 3.</p> <p>As stated on page 2447 of the minutes of the Public Service Commission for the First District, viz:</p> <p>Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 3.</p> <p>Rescindment of certain unexpended balances of former authorizations reduced to suffice the purposes of the original requisitions.</p> <p>Seventh Avenue-Lexington Avenue Line</p> <p>Lexington Avenue Branch</p> <p>Route 5, Section 9, contract construction. \$2,400 56</p> <p>Route 12, contract construction. 186,264 14</p> <p>\$188,664 70</p> <p>Astoria, Woodside and Corona Route.</p> <p>Route 36 and 37, Sec. 2, Contract construction. \$1,045 08</p> <p>Route 36 and 37, Sec. 3, Contract construction. 416 62</p> <p>\$1,461 70</p> <p>Amount rescinded to be applied to the unexpended sum remaining of the appropriation of \$28,200,000, and effecting no change in the additional sum necessary for the purposes of carrying out the city's obligations under the contract known as Contract No. 3, \$2,817 18.</p> <p>Additional amount rescinded and applied to the unexpended sum remaining of \$28,200,000, and additional issues of corporate stock, pursuant to Contract No. 3.</p>	<p>July 24, 1916</p> <p>July 27, 1916</p> <p>Aug. 18, 1916</p> <p>300,000 00</p> <p>50,000 00</p> <p>187,309 22</p>
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<p>Route Sec. Date Amount</p> <p>5 9 July 1, 1915 \$413,000 00</p> <p>Rescindment of subauthorizations made since March 18, 1913, and effecting no change in additional sum necessary for purposes of carrying out the city's obligation under the contract for additional railroads known as Contract No. 3.</p> <p>Amount rescinded \$49,000 00</p> <p>July 27, 1916. As stated on page 4539 of the minutes of the Board of Estimate and Apportionment.</p> <p>July 28, 1916. As stated on page 4826 of the minutes of the Board of Estimate and Apportionment, viz:</p> <p>August 22, 1916. As stated on page 4923 of the minutes of the Board of Estimate and Apportionment. Rescindment, viz:</p> <p>Route Sec. Date Amount</p> <p>5 9 July 1, 1915 \$394,700 00</p> <p>6 12 Aug. 3, 1911 2,825,743 74</p> <p>36 &amp; 37 2 Mar. 6, 1913 860,743 59</p> <p>36 &amp; 37 3 Nov. 19, 1915 7,421 25</p> <p>\$190,126 40</p> <p>Amount rescinded \$2,840 56</p> <p>186,264 14</p> <p>1,045 08</p> <p>416 62</p> <p>Rescindment of subauthorizations made since March 18, 1913, and effecting no change in additional sum necessary for purposes of carrying out the city's obligation under the contract for additional railroads known as Contract No. 3.</p> <p>Additional amount made available for purposes of carrying out the city's obligations under the contract for additional railroads, known as Contract No. 3.</p>	<p>300,000 00</p> <p>50,000 00</p> <p>187,309 22</p>
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## CONTRACT NO. 3 — INTERBOROUGH RAPID TRANSIT COMPANY — Concluded

## XIIA. REQUISITIONS AND APPROPRIATIONS — Concluded

January 1, 1916, to December 31, 1916 — Concluded

Date	Requisitions	Amount	Appropriations	Amount
Nov. 6, 1916	<p>As stated on page 1836 of the minutes of the Public Service Commission for the First District, viz.:  Rescindment of certain unexpended balances of former authorizations reduced to suffice the purposes of the original requisition.  Seventh Avenue-Lexington Avenue Line  Route 5, Sec. 10. Contract construction. \$243,348 90  Route 5, Sec. 11. Contract construction. 363,619 27  Route 5, Sec. 14. Contract construction. 1,185 61</p> <p>† Amount rescinded to be applied to the unexpended sum remaining of the appropriation of \$28,200,000, and effecting no change in the additional sum necessary for the purposes of carrying out the city's obligations under the contract known as Contract No. 3, \$1,185 61.  †† Additional amounts rescinded and applied to the unexpended sum remaining of \$28,200,000 and additional issues of corporate stock, pursuant to Contract No. 3.</p> <p>As stated on page 1881 of the minutes of the Public Service Commission for the First District, viz.:  Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 3.....</p> <p>As stated on page 2069 of the minutes of the Public Service Commission for the First District, viz.:  Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 3.....</p>		<p>Nov. 17, 1916. As stated on page 7789 of the minutes of the Board of Estimate and Apportionment, viz.:  Rescindment.  Original authorization  Route Sec. Date Amount Amount rescinded  5 10 Sept. 22, 1916 \$2,753,073 80 \$243,348 90  5 11 July 21, 1911 3,132,195 05 363,619 27  a5 14 Jan. 7, 1916 25,000 00 1,185 61  \$608,153 78</p> <p>a Rescindment of subauthorizations made since March 18, 1913, and effecting no change in the additional sum necessary for carrying out the city's obligation under the contract for additional railroads known as Contract No. 3..... \$1,185 61</p> <p>Additional sum made available for purposes of carrying out the city's obligation under the contract for additional railroads, known as Contract No. 3.....</p>	\$606,968 17
Nov. 16, 1916		\$606,968 17		\$606,968 17
Dec. 7, 1916		400,000 00	Nov. 17, 1916. As stated on page 7783 of the minutes of the Board of Estimate and Apportionment, viz....	400,000 00
Dec. 15, 1916		250,000 00	Dec. 15, 1916. As stated on page 8367 of the minutes of the Board of Estimate and Apportionment, viz....	250,000 00
Total amount of requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District in the construction of additional railroads under Contract No. 3 with the Interborough Rapid Transit Company, from January 1, 1916, to December 31, 1916...		\$5,582,717 07	Total amount of the appropriations made by the Board of Estimate and Apportionment, the proceeds to be applied to the construction of the Dual System of Rapid Transit Railroads under Contract No. 3, from January 1, 1916, to December 31, 1916.....	\$5,582,717 07

# RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY CONTRACT No. 3

## XIIB. REQUISITIONS AND APPROPRIATIONS

Statement of the contracts for construction awarded, and the requisitions made by the Public Service Commission upon the Board of Estimate and Apportionment, and the appropriations made by the Board of Estimate and Apportionment, supplemental to the authorizations of March 18, 1913, for \$28,200,000 and additional authorizations, aggregating \$33,782,717.07, for the issue of corporate stock of the City of New York; the proceeds from the sale thereof to be applied to the contribution of the City of New York towards the cost of construction of the railroad under the provisions of the contract with the Interborough Rapid Transit Company, dated March 19, 1913, known as Contract No. 3, for the construction, equipment and operation of new rapid transit railroads under the Dual System contracts from January 1, 1916, to December 31, 1916.

Date of award by Public Service Commission	Route No.	Section No.	Description	Name of contractor	Amount of bid	*Payable by Interborough Rapid Transit Co.	%	Payable by City of New York	%	Date of author-ation by Board of Estimate and Apportionment
Oct. 15, 1915	5	14	Additional work necessary in the construction of the railroad from Lexington avenue and East 129th street, Borough of Manhattan, under Lexington avenue and Harlem river to Mott avenue, Borough of The Bronx.....	Arthur McMullen & Hoff Co.	\$25,000 00	.....	..	\$25,000 00	..	Jan. 7, 1916
Dec. 28, 1915	.....	.....	Real estate and interest therein.....	.....	775,000 00	.....	..	775,000 00	..	Jan. 21, 1916
Dec. 10, 1915	.....	.....	Track materials, special work, Order No. 6.....	Ramapo Iron Works.....	46,195 00	.....	..	46,195 00	100	Jan. 21, 1916
Oct. 13, 1915	43 & 29	1	Additional for construction of the railroad — Lexington Avenue and Steinway Tunnel Connection — Dual lines at 42d street and Fifth avenue, Manhattan.....	Rapid Transit Subway Construction Company.....	15,000 00	.....	..	15,000 00	100	Jan. 28, 1916
Dec. 17, 1915	10	2	Additional for construction of the railroad, Jerome avenue, from East 183d street to Woodlawn road, Borough of The Bronx.....	Cooper & Evans Company.....	42,200 00	.....	..	42,200 00	100	Jan. 31, 1916
Dec. 17, 1915	50	.....	Additional for construction of the railroad Queensboro Connection, Steinway Tunnel line, from Fourth street, west of Van Alst avenue, thence easterly through private property and intervening streets, North Shore yard of the L. I. R. R. to Davis street to Ely avenue, to the easterly approach of the Queensboro bridge, Borough of Queens.....	Dugan Contracting Company.....	137,900 00	.....	..	124,247 85	100	Feb. 18, 1916

1 For footnotes, see page 43.

## RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY — Continued

## CONTRACT No. 3 — Continued

## XII.B. REQUISITIONS AND APPROPRIATIONS — Continued

Date of award by Public Service Commission	Route No.	Section No.	Description	Name of contractor	Amount of bid	*Payable by Interborough Rapid Transit Co.	%	Payable by City of New York	%	Date of authorization by Board of Estimate and Apportionment
Dec. 10, 1915	19 & 23	2	Construction of the railroad. Southern Boulevard and Westchester Avenue line, Bannock street to Eastern Boulevard	* Lawrence C. Manual	\$2,003,877 50	\$41,277,550 00	20	\$1,651,102 00	80	Feb. 18, 1916
June 25, 1915	36 & 37	1	Additional for construction of the railroad. Astoria, Woodside and Corona route. From easterly end of the Queensboro bridge along and over Queensboro bridge plaza near Ely avenue, extending easterly to Jackson avenue, thence by one branch northerly along and over Jackson avenue, Second avenue to Beebe avenue and another branch easterly along and over Queens boulevard to Van Dam street, Borough of Queens	Swire & Thiest Company	\$373,908 00	[Part charged to Contract No. 4]	45	160,256 80	55	Feb. 18, 1916
Dec. 17, 1915	16	1	Additional for construction of the railroad. Jerome Avenue route. From River avenue at East 167th street, northerly over and along private property, River, Borough of Jerome avenue to East 183d street, Borough of the Bronx	Oscar Daniels Company	38,500 00			26,500 00		Feb. 25, 1916
Feb. 24, 1916			Interest on corporate stock issued by the city of New York		300,000 00			300,000 00		Feb. 25, 1916
Mar. 17, 1916			Interest on corporate stock issued by the city of New York		500,000 00			500,000 00		Mar. 17, 1916
Feb. 17, 1916	18		Track installation	Coast and Lakes Contracting Corporation	94,280 50			94,280 50		Mar. 24, 1916
Mar. 2, 1916	43 and 5	7-15	Track installation	The Empire Construction Company	276,433 55			276,433 55		Mar. 24, 1916
Mar. 16, 1916	50		Completion of construction and station finish at the Hunter Point avenue station of the Queensboro Rapid Transit Railroad, known as Route 50	Degnon Contracting Company	32,219 22			32,219 22		April 14, 1916

*June 15, 1915	5	3	Extra work. Additional work by-passing gas mains and supporting structure at Broadway and Park place, Borough of Manhattan.....	Depcon Contracting Company.....	70,000 00	(Part chargeable to Contract No. 4)¹	22,065 06	April 14, 1916
Sept. 10, 1915	26	....	Extra work. Constructing duct line from East 44th street and Lexington avenue easterly under East 44th street to First avenue, thence southerly under First avenue to East 42d street, thence easterly under East 42d street to a connection on the northerly side of East 42d street between First avenue and East river, Borough of Manhattan.....	E. C. Moore (see note³)....	34,905 90	.....	34,905 90	May 19, 1916
May 25, 1916	.....	....	Extra work. 44th street duct line as per above requisition.....	Beaver Engineering and Contracting Company additional estimate. (see note³).....	4,012 60	.....	4,012 60	June 16, 1916
April 27, 1916	4 and 38	6-A	Additional. Under Seventh avenue, from south of 43d street, northerly under Seventh avenue to a connection with the present Manhattan-Bronx Rapid Transit Railroad, Borough of Manhattan.	Hallbrook, Cabot & Rollins Corporation.....	37,901 51	.....	37,901 51	May 26, 1916
June 1, 1916	.....	....	Track material.....	Bethlehem Steel Production Company.....	1,202,126 50	[Part charged to Contract No. 4].....	901,594 87	June 9, 1916

¹ Requisition dated December 17, 1915, for construction under Route 50, in the sum of..... \$137,900 00  
 Reduced by the amount of the item for contingencies in the sum of..... 13,652 15

Net amount of authorisation..... \$124,247 85

² Contract for construction of Routes Nos. 19 and 22, section 2, originally awarded to Lawrence C. Mannell on December 10, 1915, later assigned as follows: April 28, 1916. For furnishing and delivering structural steel, assigned to American Bridge Company, \$1,470,000.

Requisition dated June 25, 1915, for additional construction under Routes 36 and 37, section 1, in the sum of..... \$373,906 00  
 Reduced by the amount of the item for contingencies in the sum of..... \$45,530 00  
 Also reduced by the amount of the item for duct lines in the sum of..... 34,000 00

\$291,376 00

And the remainder is divided as follows:

Amount chargeable to Contract No. 4..... 131,119 20  
 Amount chargeable to Contract No. 3..... \$160,256 80

³ Balance of requisition for \$244,000, for by-passing gas mains, apportioned as follows:

Chargeable to Contract No. 3..... \$22,065 06  
 Chargeable to Contract No. 4..... 47,934 94  
 \$70,000 00

⁴ The contractor, E. C. Moore, defaulted on the contract and a similar stipulation was prepared and awarded to the Beaver Engineering and Contracting Company on May 26, 1916, in the sum of \$38,918.50, and the authorisation of the Board of Estimate and Apportionment made May 19, 1916, was adjusted accordingly on June 16, 1916.

## RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY — Continued

## CONTRACT No. 3 — Continued

## XIIB. REQUISITIONS AND APPROPRIATIONS — Continued

Date of award by Public Service Commission	Route No.	Section No.	Description	Name of contractor	Amount of bid	* Payable by Interborough Rapid Transit Co.	%	Payable by City of New York	%	Date of authorization by Board of Estimate and Apportionment
May 18, 1916	.....	....	Track material.....	Vulcan Rail & Construction Company.....	\$500 00	.....	..	\$500 00	100	June 23, 1916
July 24, 1916	18	1	Additional. Along White Plains road, from East 180th street and Bronx Park to Burke avenue, Borough of The Bronx.....	Oscar Daniels Company.....	33,834 66	.....	..	33,834 66	100	July 27, 1916
July 24, 1916	26	....	Additional. Reconstruction for temporary operation of part of the Steinway tunnel, from 42d street and Lexington avenue, Borough of Manhattan, easterly under 42d street and East river to 4th street and Van Alst avenue, Borough of Queens.....	Rapid Transit Subway Construction Company.....	12,564 29	.....	..	12,564 29	100	July 27, 1916
July 24, 1916	19 & 22	1-A	Additional. Under Southern boulevard, from about East 147th street northerly under Hunters Point road, the public park, Dongan street and Wyckoff avenue, to Bantcroft street, Borough of The Bronx.....	Rodgers & Hagerly, Incorporated.....	178,137 00	.....	..	178,137 00	100	July 27, 1916
July 24, 1916	5	7-11	Station finish. Construction of station finish at certain stations of Lexington Avenue line, Route 8, Sections 7 to 11.....	John B. Roberts.....	278,182 66	\$278,182 66	100	.....	..	July 27, 1916
July 24, 1916	5	12-15	Station finish. Construction of station finish at certain stations of Lexington Avenue line, Route 8, Sections 12 to 15.....	A. W. King.....	316,091 06	316,091 06	100	.....	..	July 27, 1916
July 24, 1916	18	....	Construction of the 180th street yard, Route 18, being a part of the White Plains Rapid Transit Railroad.....	Thomas J. Buckley, Construction Company.....	269,222 50	269,222 50	100	.....	..	July 27, 1916
July 24, 1916	5	15	Reconstruction of the existing tunnel duct branch on Lexington Avenue line, Route 5, Section 15.....	Empire Construction Company.....	9,791 25	9,791 25	..	.....	..	July 27, 1916
July 25, 1916	.....	....	Track material.....	Pennsylvania Steel Company.....	65,316 00	.....	..	65,316 00	100	July 27, 1916
July 24, 1916	18	2	Additional. Over and along White Plains road from Burke avenue to East 241st street, Borough of The Bronx.....	Alfred P. Roth.....	3,281 63	.....	..	3,281 63	100	July 27, 1916

# AUDITOR'S REPORT

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Date	Description	No.	Contract	Contractor	Amount	Part chargeable to contract No. 41	Part chargeable to contract No. 41	Total	Date
July 24, 1916	1 Additional. From easterly end of Queensboro bridge along and over Bridges plaza, Ely avenue, Jackson avenue, with branches along Beebe avenue and also along Queens Boulevard, Borough of Queens.	36 & 37	1	Seare & Trist Company - Eppinger & Russell Company	34,000 00	..	..	34,000 00	July 27, 1916
July 27, 1916	Track material.	..	..	..	5,500 00	..	..	5,500 00	July 28, 1916
July 27, 1916	26 Station finish at Grand Central Station on line of Subway-Herald Transit Railroad.	..	1	Thomas J. Waters Company	29,648 18	..	..	29,648 18	July 28, 1916
July 27, 1916	Construction of a railroad dike line (Walton avenue and East 157th street), being a part of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad.	..	..	T. H. Reynolds Contracting Company, Inc.	10,307 00	..	..	10,307 00	July 28, 1916
Aug. 9, 1916	Additional. Track materials; special work order No. 4.	..	..	William Wharton, Jr., and Company, Inc.	5,491 00	..	..	5,491 00	Aug. 22, 1916
Aug. 21, 1916	5 Additional. Construction under Mott avenue and East 134th street to East 157th street, and to Alexander avenue, Borough of The Bronx.	..	15	Rodgers & Hagerty, Inc.	8,457 51	..	..	8,457 51	Aug. 22, 1916
Aug. 18, 1916	16 Additional. Construction from River avenue at East 157th street, northerly over and along private property, River avenue and Jerome avenue to East 159d street, Borough of the Bronx.	..	1	Oscar Daubels Company	6,595 97	..	..	6,595 97	Aug. 22, 1916
Aug. 9, 1916	Additional. Track materials; special work, portions 421 and 422.	..	..	Ramapo Iron Works	3,539 00	..	[Part chargeable to contract No. 41]	1,794 50	Aug. 22, 1916
Aug. 9, 1916	Additional. Track materials, Malleable Iron, Order No. 3.	..	..	Fornas Foundry & Manufacturing Company	500 00	..	[Part chargeable to contract No. 41]	375 00	Aug. 22, 1916
Aug. 22, 1916	..	..	..	..	..	..	..	..	..
Aug. 22, 1916	..	..	..	..	2,500 00	..	..	2,500 00	Sept. 29, 1916
Aug. 20, 1916	36-37 Maintenance during the period between the time of completion of portions of the railroad and the time it is taken over by the lessee under provisions of Contract No. 3.	..	2	Cooper & Evans Company	1,379 24	..	..	1,379 24	Sept. 29, 1916
Sept. 14, 1916	4 & 38 Additional. From Second avenue near Beebe avenue along and over Second avenue to Diemar avenue, Borough of Queens.	..	1A to 6A	Engel & Heverner	239,440 50	..	..	239,440 50	Sept. 29, 1916
Sept. 14, 1916	45 Installation of tracks.	..	1, 2, 3	..	..	..	..	..	..
Sept. 18, 1916	36-37 Additional. Relocation of column No. 270E, being a part of the Astoria Woodside and Caro Rapd Transit Railroad.	..	2	Port & McCord, Inc.	1,835 00	..	..	1,835 00	Sept. 29, 1916

\* December 22, 1916, the Board of Estimate and Apportionment pursuant to a modifying agreement with the contractor, Empire Construction Company, reduced the amount available for this contract by the sum of \$541.26. This amount to be later applied to the contract with T. H. Reynolds, for the work excised from the above contract.

RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY — *Concluded*CONTRACT No. 3 — *Concluded*XIIB. REQUISITIONS AND APPROPRIATIONS — *Concluded*

Date of award by Public Service Commission	Route No.	Section No.	Description	Name of contractor	Amount of bid	*Payable by Interborough Rapid Transit Co.	%	Payable by City of New York	%	Date of authorization by Board of Estimate and Apportionment
Sep. 14, 1916	.....	....	Track material. Special work order No. 10.....	Ramapo Iron Works.....	\$11,427 00	.....	..	\$11,427 00	100	Oct. 6, 1916
Oct. 5, 1916	18	....	Construction of 230th street yard, being a part of route 18, White Plains Rapid Transit Railroad.	Thomas J. Buckley Construction Company.....	372,393 00	\$84,200 00	..	288,693 00	..	Nov. 24, 1916
Nov. 24, 1916	4 & 38	5, 6 & 6A	Station finish.....	Louis Webber.....	382,521 00	.....	..	382,521 00	..	Nov. 24, 1916
Oct. 9, 1916	43	1 & 2	Relocation of trolley tracks at the easterly end of the Queensboro Bridge Plaza, at the intersection of Diagonal street and Jackson avenue, Borough of Queens.....	Thomas Crimmins Contracting Company.....	2,900 00	[Part chargeable to Contract No. 4].	..	1,595 00	55	Nov. 24, 1916
Oct. 11, 1916	36-37	1	Interest on corporate stock.	.....	400,000 00	.....	..	400,000 00	..	Nov. 17, 1916
Nov. 16, 1916	.....	....	Track materials, for the furnishing of special work to be used for the installation of additional crossovers in the Queensboro Rapid Transit Railroad, Borough of Manhattan.....	Ramapo Iron Works.....	950 00	.....	..	950 00	100	Dec. 15, 1916
Nov. 20, 1916	4 & 38	3	Additional. For additional construction and for underpinning St. John's Chapel on Varick street, Borough of Manhattan.....	Degnon Contracting Company.....	70,000 00	.....	..	70,000 00	100	Dec. 15, 1916
Nov. 29, 1916	43 & 28	1	Additional. Park avenue-Lexington avenue connection under Park avenue, and city property northwesterly to Lexington avenue near 43d street, Borough of Manhattan.....	Rapid Transit Subway Construction Company.....	75,000 00	.....	..	75,000 00	100	Dec. 27, 1916
Sep. 14, 1916	19 & 22	1	Additional. Under private property and Southern boulevard, from East 138th street to East 147th street, Borough of The Bronx.....	Richard Carrel Company, Inc., Amigos.....	160,000 00	.....	..	160,000 00	100	Oct. 6, 1916

Nov. 29, 1916	.....	.....	Additional track materials. Supply of, special work, order No. 8.	Ramapo Iron Works.....	100 00	.....	.....	100 00	Dec. 22, 1916
July 30, 1916	36-37	1	TRANSPORTS AND REAPPORTMENTS Reapportionment of appropriation for construction of the railroad. Astoria, Woodside and Corona route, Second avenue to Beebe avenue and branches.....	Sware & Triest.....	884,859 00	[Part charged to Contract No. 4].....	45	\$7,035,178 33	Feb. 18, 1916
June 1, 1916	.....	.....	Reapportionment of appropriation for purchase of track materials. Special work order No. 3.....	Ramapo Iron Works.....	54,960 00	[Part charged to Contract No. 4].....	..	\$398,186 55	July 27, 1916
July 26, 1916	5	9	Rescindment of unexpended balances of appropriation for construction of the railroad. Lexington avenue-67th street to 79th street. Authorized July 1, 1915.	Patrick McGovern & Co.....	413,000 00	.....	..	49,000 00	July 27, 1916
Aug. 18, 1916	5	9	Rescindment of unexpended balances of appropriations for construction of the railroad. Lexington avenue-67th street, to 79th street. Authorized July 1, 1915.	Patrick McGovern & Co.....	.....	.....	..	2,400 56	Aug. 22, 1916
Aug. 18, 1916	5	9	Rescindment of unexpended balances of appropriations for construction of storm drain. Route 36-37, sec. 3, Queens. Authorized Nov. 19, 1915.	Murphy Brothers.....	7,431 25	.....	..	416 62	Aug. 22, 1916
Oct. 30, 1916	5	14	Rescindment of unexpended balances of appropriations for construction of the railroad. Lexington avenue-129th to 135th streets. Authorized Jan. 7, 1916.	Arthur McMullen & Hoff Co.....	25,000 00	.....	..	1,185 61	Nov. 17, 1916
								\$492,734 34	

Total amount of contracts registered against the contributions of \$59,000,000 provided by the Interborough Rapid Transit Company towards the cost of construction of city owned lines, pursuant to Contract No. 3, dated March 19, 1913, during the period January 1, 1916, to December 31, 1916..... \$1,370,262 97

\$5,592,443 99

Portion of amount heretofore chargeable to Contract No. 3, as per resolution of the Board of Estimate and Apportionment dated October 3, 1913, and now transferred as chargeable to Contract No. 4, as per resolution dated February 18, 1916, thereby reducing the amount of sub-authorizations chargeable to Contract No. 3, for the year ending December 31, 1916, by the amount of \$398,186.55.

Portion of amount heretofore chargeable to Contract No. 3, as per resolution of the Board of Estimate and Apportionment dated September 24, 1913, and now transferred as chargeable to Contract No. 4, as per resolution dated July 27, 1916, thereby reducing the amount of sub-authorizations chargeable to Contract No. 3 for the year ending December 31, 1916, by the amount of \$41,546.

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3**  
**PARK PLACE, WILLIAM AND CLARK STREET SUBWAY**

**XIII. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Park Place, William and Clark Street Subway.

Route and Section	Date of sale	Interest rate %	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route 46, Section 1...	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$19,000 00	.....	\$19,000 00	\$277,000 00
	Feb. 10, 1916	4	July 1, 1916	Feb. 16, 1916	.....	24,000 00	.....	24,000 00	
	Feb. 24, 1916	2½	April 24, 1916	Mar. 22, 1916	.....	20,000 00	.....	20,000 00	
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	14,000 00	.....	14,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	6,000 00	.....	6,000 00	
	May 20, 1916	3	Dec. 31, 1916	June 21, 1916	.....	15,000 00	.....	15,000 00	
	May 20, 1916	3	Dec. 31, 1916	July 24, 1916	.....	6,397 36	.....	6,397 36	
	July 21, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	23,632 64	.....	23,632 64	
	Aug. 16, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	42,000 00	.....	42,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Oct. 16, 1916	.....	38,000 00	.....	38,000 00	
	Oct. 6, 1916	3½	Feb. 9, 1916	Nov. 13, 1916	.....	26,000 00	.....	26,000 00	
	Nov. 1, 1916	3½	April 2, 1917	Dec. 18, 1916	.....	21,000 00	.....	21,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	.....	.....	22,000 00	.....	22,000 00	
Route 46, Section 2...	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$36,000 00	.....	\$36,000 00	
	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 28, 1916	.....	8,000 00	.....	8,000 00	
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	35,000 00	.....	35,000 00	
	Feb. 18, 1916	2½	April 15, 1916	Feb. 24, 1916	.....	5,000 00	.....	5,000 00	
	Feb. 24, 1916	2½	April 24, 1916	Mar. 22, 1916	.....	34,000 00	.....	34,000 00	
	Mar. 24, 1916	2½	May 25, 1916	April 23, 1916	.....	6,000 00	.....	6,000 00	
	April 8, 1916	2½	May 25, 1916	April 19, 1916	.....	27,000 00	.....	27,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 1, 1916	.....	5,000 00	.....	5,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 25, 1916	.....	26,000 00	.....	26,000 00	
	May 20, 1916	3	Dec. 31, 1916	June 14, 1916	.....	28,000 00	.....	28,000 00	
	May 20, 1916	3	Dec. 31, 1916	June 21, 1916	.....	3,000 00	.....	3,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 19, 1916	.....	25,000 00	.....	25,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	July 20, 1916	.....	3,000 00	.....	3,000 00	
	.....	3	Dec. 31, 1916	Aug. 17, 1916	.....	27,000 00	.....	27,000 00	



## SEVENTH AVENUE-LEXINGTON AVENUE RAPID TRANSIT RAILROAD (PARK PLACE, WILLIAM AND CLARK STREET ROUTE)

## XIV. DISBURSEMENTS

## Contract Construction

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for the work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Park Place, William and Clark Street Route, from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount city funds	I. R. T. Co. funds
R. 48, sec. 1.	12.	Dec. 31, 1916	As stated on page 63 of the minutes of the Public Service Commission.	Frederick L. Cranford, Inc.	\$19,849 44	\$19,849 45
	13.	Jan. 31, 1916	As stated on page 230 of said minutes.	Frederick L. Cranford, Inc.	23,683 10	23,683 10
	14.	Feb. 29, 1916	As stated on page 431 of said minutes.	Frederick L. Cranford, Inc.	19,683 01	19,683 01
	15.	Mar. 31, 1916	As stated on page 694 of said minutes.	Frederick L. Cranford, Inc.	14,224 31	14,224 31
	16.	Apr. 30, 1916	As stated on page 978 of said minutes.	Frederick L. Cranford, Inc.	6,496 92	6,496 92
	17.	May 31, 1916	As stated on page 1130 of said minutes.	Frederick L. Cranford, Inc.	14,300 99	14,300 90
	18.	June 30, 1916	As stated on page 1360 of said minutes.	Frederick L. Cranford, Inc.	30,182 57	30,182 48
	19.	July 31, 1916	As stated on page 1547 of said minutes.	Frederick L. Cranford, Inc.	42,822 14	42,822 16
	20.	Aug. 31, 1916	As stated on page 1708 of said minutes.	Frederick L. Cranford, Inc.	37,056 83	37,056 83
	21.	Sept. 30, 1916	As stated on page 1864 of said minutes.	Frederick L. Cranford, Inc.	26,211 16	26,211 16
	22.	Oct. 31, 1916	As stated on page 2059 of said minutes.	Frederick L. Cranford, Inc.	31,438 04	31,438 04
	23.	Nov. 30, 1916	As stated on page 2269 of said minutes.	Frederick L. Cranford, Inc.	21,723 55	21,723 54
					\$277,241 96	\$277,241 99
					\$36,167 52	\$36,167 52
Sec. 2.	13.	Dec. 31, 1915	As stated on page 64 of said minutes.	Smith, Hauer & Mollesco, Inc.	34,269 71	34,269 71
	14.	Jan. 31, 1916	As stated on page 230 of said minutes.	Smith, Hauer & Mollesco, Inc.	33,637 67	33,637 67
	15.	Feb. 29, 1916	As stated on page 432 of said minutes.	Smith, Hauer & Mollesco, Inc.	26,817 99	26,817 99
	16.	Mar. 31, 1916	As stated on page 694 of said minutes.	Smith, Hauer & Mollesco, Inc.	23,763 29	23,763 29
	17.	Apr. 30, 1916	As stated on page 978 of said minutes.	Smith, Hauer & Mollesco, Inc.	27,923 81	27,923 82
	18.	May 31, 1916	As stated on page 1132 of said minutes.	Smith, Hauer & Mollesco, Inc.	24,776 26	24,776 26
	19.	June 30, 1916	As stated on page 1361 of said minutes.	Smith, Hauer & Mollesco, Inc.	26,646 70	26,646 70
	20.	July 31, 1916	As stated on page 1547 of said minutes.	Smith, Hauer & Mollesco, Inc.	31,899 13	31,899 13
	21.	Aug. 31, 1916	As stated on page 1708 of said minutes.	Smith, Hauer & Mollesco, Inc.		
					\$364,438 94	\$364,438 94
					\$36,167 52	\$36,167 52

22	Sept. 30, 1915	Oct. 11, 1915	Smith, Hauser & Melman, Inc.	\$337,354 67	24,408 55	674,766 33
23	Oct. 31, 1915	Nov. 9, 1915	Smith, Hauser & Melman, Inc.	\$6,500 00	20,585 89	
24	Nov. 30, 1915	Dec. 6, 1915	Smith, Hauser & Melman, Inc.	6,000 00	18,589 11	
6-R	Dec. 31, 1915	Jan. 20, 1916	Smith, Hauser & Melman, Inc.	\$337,354 65	\$337,354 67	
7	Jan. 31, 1916	Feb. 17, 1916	Smith, Hauser & Melman, Inc.	\$6,500 00	\$6,500 00	
8	Feb. 28, 1916	Mar. 28, 1916	Smith, Hauser & Melman, Inc.	6,000 00	6,000 00	
9	Mar. 31, 1916	Apr. 20, 1916	Smith, Hauser & Melman, Inc.	6,000 00	6,000 00	
10	Apr. 30, 1916	May 18, 1916	Smith, Hauser & Melman, Inc.	3,000 00	3,000 00	
11	May 31, 1916	June 15, 1916	Smith, Hauser & Melman, Inc.	3,000 00	3,000 00	
12	June 30, 1916	July 20, 1916	Smith, Hauser & Melman, Inc.	3,000 00	3,000 00	
13	July 31, 1916	Aug. 16, 1916	Smith, Hauser & Melman, Inc.	3,000 00	3,000 00	
14	Aug. 31, 1916	Sept. 14, 1916	Smith, Hauser & Melman, Inc.	3,500 00	3,500 00	
15	Sept. 30, 1916	Oct. 11, 1916	Smith, Hauser & Melman, Inc.	3,500 00	3,500 00	
16	Oct. 31, 1916	Nov. 16, 1916	Smith, Hauser & Melman, Inc.	2,500 00	2,500 00	
17	Nov. 30, 1916	Dec. 13, 1916	Smith, Hauser & Melman, Inc.	2,000 00	2,000 00	
2 Supp.	Dec. 31, 1915	Jan. 20, 1916	Smith, Hauser & Melman, Inc.	\$47,000 00	\$47,000 00	94,000 00
3	Jan. 31, 1916	Feb. 17, 1916	Smith, Hauser & Melman, Inc.	\$393 16	\$393 16	
4	Feb. 28, 1916	Mar. 28, 1916	Smith, Hauser & Melman, Inc.	1,933 10	1,933 11	
5	Mar. 31, 1916	Apr. 20, 1916	Smith, Hauser & Melman, Inc.	1,986 03	1,986 03	
	Apr. 30, 1916	May 18, 1916	Smith, Hauser & Melman, Inc.	1,354 92	1,354 93	
14	Dec. 31, 1915	Jan. 20, 1916	Flinn, O'Rourke Co., Inc.	\$4,366 21	\$4,366 23	8,733 44
15	Jan. 31, 1916	Feb. 17, 1916	Flinn, O'Rourke Co., Inc.	\$15,177 31	\$398,368 97	
16	Feb. 28, 1916	Mar. 28, 1916	Flinn, O'Rourke Co., Inc.	22,491 66	438,771 50	
17	Mar. 31, 1916	Apr. 20, 1916	Flinn, O'Rourke Co., Inc.	17,087 08	394,654 87	
18	Apr. 30, 1916	May 18, 1916	Flinn, O'Rourke Co., Inc.	18,873 41	348,575 84	
19	May 31, 1916	June 15, 1916	Flinn, O'Rourke Co., Inc.	5,998 68	113,975 00	
20	June 30, 1916	July 20, 1916	Flinn, O'Rourke Co., Inc.	10,262 10	104,979 78	
21	July 31, 1916	Aug. 16, 1916	Flinn, O'Rourke Co., Inc.	15,645 04	207,274 73	
22	Aug. 31, 1916	Sept. 14, 1916	Flinn, O'Rourke Co., Inc.	14,241 07	273,480 25	
23	Sept. 30, 1916	Oct. 11, 1916	Flinn, O'Rourke Co., Inc.	16,689 24	316,717 48	
24	Oct. 31, 1916	Nov. 16, 1916	Flinn, O'Rourke Co., Inc.	12,615 49	239,713 31	
25	Nov. 30, 1916	Dec. 13, 1916	Flinn, O'Rourke Co., Inc.	10,029 49	190,563 15	
	Dec. 31, 1915	Jan. 20, 1916	Flinn, O'Rourke Co., Inc.	11,294 61	214,597 71	
1-R	Dec. 31, 1915	Feb. 10, 1916	Flinn, O'Rourke Co., Inc.	\$170,453 36	\$3,238,612 09	3,409,065 37
				\$5,250 00	\$99,750 00	105,000 00

Total amount paid to the various contractors for work done and materials furnished under the provisions of the different contracts for the construction of the Park Place, William and Hart Street Route from January 1, 1916, to December 31, 1916.

\$4,846,081 07

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3**  
**SEVENTH AVENUE BRANCH OF THE SEVENTH AVENUE-LEXINGTON AVENUE SUBWAY**

**XV. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Seventh Avenue-Lexington Avenue Subway.

ROUTES AND SECTIONS	Issue of Stock						Total	
	Date of sale	Interest rate %	Maturity	Date of issue	Rate of premium	Amount issued		
Routes Nos. 4-38 Section No. 1	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$6,000 00	.....	\$6,000 00
	Jan. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	4,000 00	.....	4,000 00
	Feb. 24, 1916	2½	April 23, 1916	Mar. 2, 1916	.....	1,000 00	.....	1,000 00
	Mar. 9, 1916	2½	May 22, 1916	Mar. 22, 1916	.....	4,000 00	.....	4,000 00
	Apr. 8, 1916	2½	April 20, 1916	Apr. 19, 1916	.....	3,000 00	.....	3,000 00
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	2,000 00	.....	2,000 00
	May 20, 1916	3	Dec. 31, 1916	May 25, 1916	.....	1,000 00	.....	1,000 00
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,000 00	.....	2,000 00
	July 21, 1916	3	Dec. 31, 1916	July 28, 1916	.....	3,000 00	.....	3,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	2,000 00	.....	2,000 00
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 17, 1916	.....	3,000 00	.....	3,000 00
	Oct. 6, 1916	3½	Dec. 31, 1916	Sept. 26, 1916	.....	1,000 00	.....	1,000 00
	Nov. 1, 1916	3½	Feb. 9, 1917	Oct. 16, 1916	.....	2,000 00	.....	2,000 00
Dec. 6, 1916	3½	April 2, 1917	Nov. 22, 1916	.....	2,000 00	.....	2,000 00	
Routes Nos. 4-38 Section No. 1 Wrecking building, at 111-123 Greenwich street	May 29, 1916	3	Dec. 31, 1916	June 26, 1916	.....	4,867 26	.....	\$4,867 26
	June 23, 1916	3	Dec. 31, 1916	June 26, 1916	.....	1,632 64	.....	1,632 64
Routes Nos. 4-38 Section No. 1A	Nov. 15, 1915	2½	Mar. 23, 1916	Jan. 11, 1916	.....	3,000 00	.....	\$3,000 00
	Jan. 6, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	12,000 00	.....	12,000 00
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	8,000 00	.....	8,000 00
	Mar. 9, 1916	2½	April 23, 1916	Mar. 22, 1916	.....	7,000 00	.....	7,000 00
	Apr. 8, 1916	2½	May 22, 1916	Apr. 19, 1916	.....	8,000 00	.....	8,000 00
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	2,000 00	.....	2,000 00
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	7,000 00	.....	7,000 00
	July 21, 1916	3	Dec. 31, 1916	July 28, 1916	.....	6,000 00	.....	6,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 27, 1916	.....	4,000 00	.....	4,000 00
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 2, 1916	.....	1,000 00	.....	1,000 00
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	9,000 00	.....	9,000 00
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 25, 1916	.....	1,000 00	.....	1,000 00
								\$38,000 00
							6,500 00	

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Routes Nos. 4-38 Section No. 3	Nov. 1, 1916	Nov. 2, 1917	Nov. 23, 1916	1,000 00	06,000 00	1,000 00
	Dec. 6, 1916	Mar. 12, 1917	Dec. 18, 1916	2,000 00		2,000 00
	Dec. 6, 1916	Mar. 12, 1917	Dec. 28, 1916	1,000 00		1,000 00
	Jan. 5, 1916	Mar. 6, 1916	Jan. 19, 1916	3,000 00		3,000 00
	Feb. 10, 1916	Mar. 6, 1916	Jan. 26, 1916	5,000 00		5,000 00
	Mar. 9, 1916	July 1, 1916	Feb. 16, 1916	2,000 00		2,000 00
	April 8, 1916	May 22, 1916	Mar. 22, 1916	3,000 00		3,000 00
	May 1, 1916	Apr. 20, 1916	Apr. 19, 1916	1,000 00		1,000 00
	May 20, 1916	Dec. 31, 1916	May 17, 1916	2,000 00		2,000 00
	May 28, 1916	Dec. 31, 1916	May 26, 1916	5,000 00		5,000 00
Routes Nos. 4-38 Section No. 3	May 30, 1916	Dec. 31, 1916	June 21, 1916	4,000 00		4,000 00
	Aug. 16, 1916	Dec. 31, 1916	July 19, 1916	3,000 00		3,000 00
	Aug. 16, 1916	Dec. 31, 1916	Aug. 17, 1916	1,000 00		1,000 00
	Aug. 16, 1916	Dec. 31, 1916	Aug. 28, 1916	2,000 00		2,000 00
	Sept. 19, 1916	Dec. 31, 1916	Sept. 19, 1916	2,000 00		2,000 00
	Oct. 6, 1916	Feb. 9, 1917	Oct. 16, 1916	2,000 00		2,000 00
	Nov. 1, 1916	Apr. 2, 1917	Nov. 22, 1916	1,000 00		1,000 00
	Nov. 28, 1916	June 30, 1917	Nov. 28, 1916	3,000 00		3,000 00
	Dec. 6, 1916	Mar. 12, 1917	Dec. 18, 1916	2,000 00		2,000 00
	Dec. 6, 1916	Mar. 6, 1916	Jan. 19, 1916	1,000 00		1,000 00
Routes Nos. 4-38 Section No. 4	Dec. 21, 1915	Mar. 6, 1916	Jan. 26, 1916	2,000 00		2,000 00
	Feb. 24, 1916	Mar. 6, 1916	Jan. 26, 1916	3,000 00		3,000 00
	Feb. 10, 1916	Mar. 6, 1916	Feb. 21, 1916	1,000 00		1,000 00
	Mar. 9, 1916	Apr. 17, 1916	Feb. 21, 1916	2,000 00		2,000 00
	Apr. 8, 1916	May 22, 1916	Mar. 22, 1916	1,000 00		1,000 00
	May 1, 1916	Apr. 20, 1916	Apr. 19, 1916	1,000 00		1,000 00
	May 20, 1916	Dec. 31, 1916	May 17, 1916	2,000 00		2,000 00
	May 28, 1916	Dec. 31, 1916	May 26, 1916	2,000 00		2,000 00
	July 21, 1916	Dec. 31, 1916	June 21, 1916	2,000 00		2,000 00
	Aug. 16, 1916	Dec. 31, 1916	July 21, 1916	2,000 00		2,000 00
Routes Nos. 4-38 Section No. 4	Sept. 19, 1916	Dec. 31, 1916	Aug. 17, 1916	1,000 00		1,000 00
	Oct. 6, 1916	Dec. 31, 1916	Aug. 28, 1916	1,000 00		1,000 00
	Oct. 6, 1916	Feb. 9, 1917	Sept. 19, 1916	1,000 00		1,000 00
	Oct. 6, 1916	Apr. 2, 1917	Oct. 9, 1916	1,000 00		1,000 00
	Dec. 6, 1916	Mar. 12, 1917	Oct. 16, 1916	32,000 00		32,000 00
	Dec. 21, 1915	Mar. 6, 1916	Jan. 26, 1916	1,000 00		1,000 00
	Feb. 24, 1916	Mar. 6, 1916	Jan. 26, 1916	2,000 00		2,000 00
	Feb. 10, 1916	Mar. 6, 1916	Feb. 15, 1916	1,000 00		1,000 00
	Mar. 9, 1916	May 22, 1916	Mar. 22, 1916	1,000 00		1,000 00
	Apr. 8, 1916	Apr. 20, 1916	Apr. 19, 1916	4,000 00		4,000 00
Routes Nos. 4-38 Section No. 4	May 1, 1916	Dec. 31, 1916	May 17, 1916	3,000 00		3,000 00
	May 20, 1916	Dec. 31, 1916	June 21, 1916	5,000 00		5,000 00
	May 28, 1916	Dec. 31, 1916	July 19, 1916	4,000 00		4,000 00
	July 21, 1916	Dec. 31, 1916	Aug. 17, 1916	4,000 00		4,000 00
	Aug. 16, 1916	Dec. 31, 1916	Aug. 17, 1916	3,000 00		3,000 00
	Sept. 19, 1916	Dec. 31, 1916	Sept. 19, 1916	4,000 00		4,000 00
	Oct. 6, 1916	Feb. 9, 1917	Oct. 16, 1916	3,000 00		3,000 00
	Nov. 1, 1916	Apr. 2, 1917	Nov. 22, 1916	2,000 00		2,000 00
	Nov. 28, 1916	June 30, 1917	Nov. 28, 1916	2,000 00		2,000 00
	Dec. 6, 1916	Mar. 12, 1917	Dec. 18, 1916	2,000 00		2,000 00

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3 — Continued**  
**SEVENTH AVENUE BRANCH OF THE SEVENTH AVENUE-LEXINGTON AVENUE SUBWAY — Concluded**  
**XV. CORPORATE STOCK — Concluded**

ROUTES AND SECTIONS	ISSUE OF STOCK							Total
	Date of sale	Interest rate %	Maturity	Date of issue	Rate of premium	Amount issued	Amount of premium	
Routes Nos. 4-38 Section No. 5	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	1,000 00	.....	\$1,000 00
	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Feb. 1, 1916	.....	1,000 00	.....	1,000 00
	Feb. 18, 1916	2 1/2	Apr. 18, 1916	Feb. 24, 1916	.....	2,000 00	.....	2,000 00
	Mar. 9, 1916	2 1/2	May 22, 1916	Mar. 22, 1916	.....	1,000 00	.....	1,000 00
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	1,000 00	.....	1,000 00
	May 1, 1916	2 1/2	Dec. 31, 1916	May 17, 1916	.....	2,000 00	.....	2,000 00
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,000 00	.....	2,000 00
	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	2,000 00	.....	2,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	2,000 00	.....	2,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	2,000 00	.....	2,000 00
	Sept. 19, 1916	3 1/4	Dec. 31, 1916	Sept. 19, 1916	.....	2,000 00	.....	2,000 00
	Oct. 18, 1916	3 1/4	Apr. 16, 1917	Oct. 23, 1916	.....	2,000 00	.....	2,000 00
	Dec. 1, 1916	3 1/4	Mar. 15, 1917	Dec. 1, 1916	.....	2,000 00	.....	2,000 00
	Dec. 6, 1916	3 1/4	Mar. 12, 1917	Dec. 26, 1916	.....	1,000 00	.....	1,000 00
Routes Nos. 4-38 Section No. 6	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	2,000 00	.....	\$2,000 00
	Dec. 21, 1915	2 1/2	Mar. 6, 1916	Jan. 26, 1916	.....	1,000 00	.....	1,000 00
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	2,000 00	.....	2,000 00
	Mar. 9, 1916	2 1/2	Apr. 19, 1916	Mar. 22, 1916	.....	1,000 00	.....	1,000 00
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	1,000 00	.....	1,000 00
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	2,000 00	.....	2,000 00
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,000 00	.....	2,000 00
	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	2,000 00	.....	2,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	2,000 00	.....	2,000 00
	Sept. 19, 1916	3 1/4	Dec. 31, 1916	Sept. 25, 1916	.....	3,000 00	.....	3,000 00
	Oct. 18, 1916	3 1/4	Apr. 16, 1917	Oct. 23, 1916	.....	2,000 00	.....	2,000 00
	May 20, 1916	3	Dec. 31, 1916	June 12, 1916	.....	29,979 81	.....	29,979 81
								19,000 00
								29,979 81
Routes Nos. 4-38 Section No. 6A								\$315,479 81

Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Seventh Avenue Branch of the Seventh Avenue- Lexington Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916, .....

**SEVENTH AVENUE-LEXINGTON AVENUE RAPID TRANSIT RAILROAD (SEVENTH AVENUE BRANCH)  
DISBURSEMENTS**

**XVI. CONTRACT CONSTRUCTION**

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made to various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Seventh Avenue Route from January 1, 1916, to December 31, 1916.

Route	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. Co. funds	Total.
Routes 4 and 38, Sec. 1	17.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 69 of the minutes of the Public Service Commission.....	Rapid Transit Subway Construction Co.....	\$3,735 10	\$70,966 95
	18.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 229 of said minutes.....	Rapid Transit Subway Construction Co.....	3,920 22	74,484 34
	19.....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 430 of said minutes.....	Rapid Transit Subway Construction Co.....	3,201 20	60,332 87
	20.....	Mar. 31, 1916	April 13, 1916	As stated on page 596 of said minutes.....	Rapid Transit Subway Construction Co.....	2,870 32	54,536 08
	21.....	April 30, 1916	May 11, 1916	As stated on page 749 of said minutes.....	Rapid Transit Subway Construction Co.....	1,931 04	37,639 63
	22.....	May 31, 1916	June 15, 1916	As stated on page 931 of said minutes.....	Rapid Transit Subway Construction Co.....	2,198 09	41,763 76
	23.....	June 30, 1916	July 12, 1916	As stated on page 1131 of said minutes.....	Rapid Transit Subway Construction Co.....	2,637 19	50,106 64
	24.....	July 31, 1916	Aug. 11, 1916	As stated on page 1363 of said minutes.....	Rapid Transit Subway Construction Co.....	2,048 57	38,922 90
	25.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1548 of said minutes.....	Rapid Transit Subway Construction Co.....	3,039 82	58,136 53
	26.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1708 of said minutes.....	Rapid Transit Subway Construction Co.....	2,166 69	41,167 01
	27.....	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1998 of said minutes.....	Rapid Transit Subway Construction Co.....	1,687 44	32,061 35
	28.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2058 of said minutes.....	Rapid Transit Subway Construction Co.....	1,968 95	37,789 97
						\$21,494 63	\$598,393 03
							\$620,892 06

SEVENTH AVENUE-LEXINGTON AVENUE RAPID TRANSIT RAILROAD (SEVENTH AVENUE BRANCH) — *Continued*  
 DISBURSEMENTS — *Continued*

XVI. CONTRACT CONSTRUCTION — *Continued*

Routes AND SECTION	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. Co. funds	Total
Routes 4 and 33, Sec. 1 — Cont'd	4-R.....	Dec. 31, 1915	As stated on page 65 of said minutes.....	Rapid Transit Subway Construction Co.....	\$3,700 00	\$51,300 00	
	5.....	Jan. 31, 1916	As stated on page 309 of said minutes.....	Rapid Transit Subway Construction Co.....	650 00	12,850 00	
	6.....	Feb. 29, 1916	As stated on page 432 of said minutes.....	Rapid Transit Subway Construction Co.....	600 00	11,400 00	
	7.....	Mar. 31, 1916	As stated on page 634 of said minutes.....	Rapid Transit Subway Construction Co.....	550 00	10,450 00	
	8.....	April 30, 1916	As stated on page 794 of said minutes.....	Rapid Transit Subway Construction Co.....	350 00	6,650 00	
	9.....	May 31, 1916	As stated on page 981 of said minutes.....	Rapid Transit Subway Construction Co.....	300 00	5,700 00	
	10.....	June 30, 1916	As stated on page 1172 of said minutes.....	Rapid Transit Subway Construction Co.....	300 00	5,700 00	
	11.....	July 31, 1916	As stated on page 1467 of said minutes.....	Rapid Transit Subway Construction Co.....	250 00	4,750 00	
	12.....	Aug. 31, 1916	As stated on page 1596 of said minutes.....	Rapid Transit Subway Construction Co.....	350 00	6,650 00	
	13.....	Sept. 30, 1916	As stated on page 1833 of said minutes.....	Rapid Transit Subway Construction Co.....	300 00	3,800 00	
	14.....	Oct. 31, 1916	As stated on page 1944 of said minutes.....	Rapid Transit Subway Construction Co.....	350 00	4,750 00	
	15.....	Nov. 30, 1916	As stated on page 2158 of said minutes.....	Rapid Transit Subway Construction Co.....	200 00	3,800 00	
					\$6,700 00	\$127,330 00	\$124,000 00
	2 Supp.....	Mar. 31, 1916	As stated on page 596 of said minutes.....	Rapid Transit Subway Construction Co.....	\$206 97	\$3,932 33	
	3.....	Oct. 15, 1916	As stated on page 1833 of said minutes.....	Rapid Transit Subway Construction Co.....	196 51	3,733 61	
					\$403 48	\$7,666 14	
							8,009 69
							\$771,963 36

Routes 4 and 38, Sec. 1a	Dec. 31, 1915	Jan. 13, 1916	As stated on page 22 of said minutes	Rapid Transit Subway Construc- tion Co.	\$7,551 01	\$7,551 02
15.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 229 of said minutes	Rapid Transit Subway Construc- tion Co.	7,461 72	7,461 72
16.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 229 of said minutes	Rapid Transit Subway Construc- tion Co.	6,228 45	6,228 46
17.....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 230 of said minutes	Rapid Transit Subway Construc- tion Co.	7,471 71	7,471 71
18.....	Mar. 31, 1916	April 13, 1916	As stated on page 230 of said minutes	Rapid Transit Subway Construc- tion Co.	1,627 47	1,627 47
19.....	April 30, 1916	May 11, 1916	As stated on page 748 of said minutes	Rapid Transit Subway Construc- tion Co.	5,851 30	5,851 31
20.....	May 31, 1916	June 15, 1916	As stated on page 979 of said minutes	Rapid Transit Subway Construc- tion Co.	5,511 24	5,511 24
21.....	June 30, 1916	July 13, 1916	As stated on page 1132 of said minutes	Rapid Transit Subway Construc- tion Co.	4,400 51	4,400 51
22.....	July 31, 1916	Aug. 11, 1916	As stated on page 1363 of said minutes	Rapid Transit Subway Construc- tion Co.	2,535 58	2,535 58
23.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1647 of said minutes	Rapid Transit Subway Construc- tion Co.	1,104 30	1,104 30
24.....	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1898 of said minutes	Rapid Transit Subway Construc- tion Co.	2,237 80	2,237 80
25.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2069 of said minutes	Rapid Transit Subway Construc- tion Co.	\$52,016 08	\$52,016 12
4-R.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 65 of said minutes	Rapid Transit Subway Construc- tion Co.	\$5,500 00	\$5,500 00
5-R.....	Jan. 31, 1916	Feb. 24, 1916	As stated on page 508 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
6.....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 432 of said minutes	Rapid Transit Subway Construc- tion Co.	1,000 00	1,000 00
7.....	Mar. 31, 1916	April 20, 1916	As stated on page 634 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
8.....	April 30, 1916	May 18, 1916	As stated on page 794 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
9.....	May 31, 1916	June 15, 1916	As stated on page 980 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
10.....	June 30, 1916	July 20, 1916	As stated on page 1174 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
11.....	July 31, 1916	Aug. 30, 1916	As stated on page 1467 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
12.....	Aug. 31, 1916	Sept. 21, 1916	As stated on page 1595 of said minutes	Rapid Transit Subway Construc- tion Co.	500 00	500 00
13.....	Nov. 30, 1916	Dec. 21, 1916	As stated on page 2189 of said minutes	Rapid Transit Subway Construc- tion Co.	450 00	450 00
1 Sup.....	Nov. 30, 1915	Jan. 6, 1916	As stated on page 31 of said minutes	Rapid Transit Subway Construc- tion Co.	\$10,450 00	\$10,450 00
					\$3,506 25	\$3,506 23
						\$104,032 20
						20,900 00
						7,012 50
						\$813,006 98

## SEVENTH AVENUE-LEXINGTON AVENUE RAPID TRANSIT RAILROAD (SEVENTH AVENUE BRANCH) — Continued

## DISBURSEMENTS — Continued

## XVI. CONTRACT CONSTRUCTION — Continued

Route and Section	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. Co. funds	Total
Routes 4 and 36, Sec. 2	21.....	Dec. 30, 1915	As stated on page 63 of said minutes.	Depcon Contracting Co.....	\$4,209 62	\$70 982 88	
	22.....	Jan. 31, 1916	As stated on page 229 of said minutes.	Depcon Contracting Co.....	4,227 61	84 194 58	
	23.....	Feb. 29, 1916	As stated on page 430 of said minutes.	Depcon Contracting Co.....	2,460 03	46 740 62	
	24.....	Mar. 31, 1916	As stated on page 585 of said minutes.	Depcon Contracting Co.....	2,884 88	54 447 82	
	25.....	Apr. 30, 1916	As stated on page 748 of said minutes.	Depcon Contracting Co.....	1,401 12	26 021 22	
	26.....	May 31, 1916	As stated on page 978 of said minutes.	Depcon Contracting Co.....	4,269 29	81 118 93	
	27.....	June 30, 1916	As stated on page 1131 of said minutes.	Depcon Contracting Co.....	4,027 74	77 857 17	
	28.....	July 31, 1916	As stated on page 1361 of said minutes.	Depcon Contracting Co.....	2,031 20	56 072 78	
	29.....	Aug. 31, 1916	As stated on page 1549 of said minutes.	Depcon Contracting Co.....	2,570 22	64 836 18	
	30.....	Sep. 30, 1916	As stated on page 1709 of said minutes.	Depcon Contracting Co.....	2,108 80	40 031 10	
	31.....	Oct. 31, 1916	As stated on page 1898 of said minutes.	Depcon Contracting Co.....	2,328 69	45 280 21	
	32.....	Nov. 30, 1916	As stated on page 2056 of said minutes.	Depcon Contracting Co.....	2,435 25	46 270 01	
					\$56,478 56	\$692,093 18	\$729,571 74
Routes 4 and 36, Sec. 3	6-R.....	Dec. 30, 1915	As stated on page 120 of said minutes.	Depcon Contracting Co.....	3,250 00	61 750 00	
	7-R.....	Apr. 30, 1916	As stated on page 705 of said minutes.	Depcon Contracting Co.....	2,100 00	39 900 00	
	8.....	July 31, 1916	As stated on page 1422 of said minutes.	Depcon Contracting Co.....	1,250 00	23 750 00	
	9.....	Oct. 31, 1916	As stated on page 1944 of said minutes.	Depcon Contracting Co.....	560 00	16 150 00	
	1 Supp.....	Feb. 29, 1916	As stated on page 480 of said minutes.	Depcon Contracting Co.....	\$7,450 00	\$141,550 00	149,000 00
	2.....	Oct. 31, 1916	As stated on page 2032 of said minutes.	Depcon Contracting Co.....	\$74 37	\$1,413 13	
					27 41	620 87	
					\$101 78	\$1,934 00	2,035 78
	24.....	Dec. 31, 1915	As stated on page 64 of said minutes.	Depcon Contracting Co.....	\$2,255 99	\$42,861 92	\$1,784,514 80
	25.....	Jan. 31, 1916	As stated on page 229 of said minutes.	Depcon Contracting Co.....	2,475 43	47 033 26	
	26.....	Feb. 29, 1916	As stated on page 431 of said minutes.	Depcon Contracting Co.....	1,783 83	33 322 56	
	27.....	Mar. 31, 1916	As stated on page 595 of said minutes.	Depcon Contracting Co.....	1,473 07	27 868 28	
	28.....	Apr. 30, 1916	As stated on page 749 of said minutes.	Depcon Contracting Co.....	1,008 00	19 114 00	
	29.....	May 31, 1916	As stated on page 978 of said minutes.	Depcon Contracting Co.....	2,068 84	39 309 86	
	30.....	June 30, 1916	As stated on page 1181 of said minutes.	Depcon Contracting Co.....	2,090 26	39 714 70	
	31.....	July 31, 1916	As stated on page 1361 of said minutes.	Depcon Contracting Co.....	1,830 76	94,784 48	

32	Aug. 31, 1915	As stated on page 1514 of said minutes.	Depon Contracting Co.	1,683 35	\$341,102 68
33	Sept. 30, 1915	As stated on page 1708 of said minutes.	Depon Contracting Co.	1,358 09	
34	Oct. 31, 1915	As stated on page 2119 of said minutes.	Depon Contracting Co.	13,896 18	
35	Nov. 30, 1915	As stated on page 2119 of said minutes.	Depon Contracting Co.	10,282 50	
7-R	Dec. 31, 1915	As stated on page 121 of said minutes.	Depon Contracting Co.	\$42,174 88	
8-R	Jan. 30, 1916	As stated on page 749 of said minutes.	Depon Contracting Co.	\$1,250 00	
9	Feb. 15, 1916	As stated on page 1422 of said minutes.	Depon Contracting Co.	800 00	
10	Mar. 23, 1916	As stated on page 2119 of said minutes.	Depon Contracting Co.	700 00	
	Dec. 30, 1915		Depon Contracting Co.	1,142 08	
6 Supp.	Mar. 31, 1916	As stated on page 749 of said minutes.	Depon Contracting Co.	\$3,892 08	
6	April 30, 1916	As stated on page 933 of said minutes.	Depon Contracting Co.	\$104 25	
7	July 31, 1916	As stated on page 1504 of said minutes.	Depon Contracting Co.	141 78	
8	Sept. 30, 1916	As stated on page 1267 of said minutes.	Depon Contracting Co.	178 40	
9	Oct. 31, 1916	As stated on page 3119 of said minutes.	Depon Contracting Co.	188 92	
10	Nov. 30, 1916	As stated on page 2119 of said minutes.	Depon Contracting Co.	3,526 84	
			Depon Contracting Co.	3,468 66	
				\$7,448 14	\$11,993 13
19	Dec. 31, 1915	As stated on page 191 of said minutes.	United States Realty & Improvement Co.	\$1,321 12	\$25,101 26
20	Jan. 31, 1916	As stated on page 280 of said minutes.	United States Realty & Improvement Co.	1,934 13	36,748 48
21	Feb. 29, 1916	As stated on page 431 of said minutes.	United States Realty & Improvement Co.	1,621 21	28,902 73
22	Mar. 31, 1916	As stated on page 595 of said minutes.	United States Realty & Improvement Co.	1,379 15	26,203 83
23	April 30, 1916	As stated on page 748 of said minutes.	United States Realty & Improvement Co.	1,051 49	19,978 22
24	May 31, 1916	As stated on page 977 of said minutes.	United States Realty & Improvement Co.	3,591 18	68,232 46
25	June 30, 1916	As stated on page 1131 of said minutes.	United States Realty & Improvement Co.	2,932 62	55,719 84
26	July 31, 1916	As stated on page 1363 of said minutes.	United States Realty & Improvement Co.	2,943 91	55,934 25
27	Aug. 31, 1916	As stated on page 1549 of said minutes.	United States Realty & Improvement Co.	3,814 13	72,468 52
28	Sept. 30, 1916	As stated on page 1708 of said minutes.	United States Realty & Improvement Co.	3,781 84	71,855 15
29	Oct. 31, 1916	As stated on page 1897 of said minutes.	United States Realty & Improvement Co.	3,332 68	68,319 93
30	Nov. 30, 1916	As stated on page 2000 of said minutes.	United States Realty & Improvement Co.	3,017 40	57,330 06
				\$30,620 81	\$581,796 43
					\$11,993 13
					\$2,252,983 45
					\$354,102 68
					\$5,000 00
					\$19,366 27
					\$12,416 23

Route  
4 and 35  
See 4

## SEVENTH AVENUE-LEXINGTON AVENUE RAPID TRANSIT RAILROAD (SEVENTH AVENUE BRANCH) — Continued

## DISBURSEMENTS — Continued

## XVI. CONTRACT CONSTRUCTION — Continued

Route and Section	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. Co. funds	Total
Routes 4 and 38, Sec. 4 — Cont'd	5-R.....	Dec. 31, 1915	As stated on page 164 of said minutes.....	United States Realty & Improvement Co.....	\$1,000 00	\$19,000 00	
	6-R.....	June 30, 1916	As stated on page 1360 of said minutes.....	United States Realty & Improvement Co.....	2,400 00	45,900 00	
	7.....	Nov. 30, 1916	As stated on page 3158 of said minutes.....	United States Realty & Improvement Co.....	1,950 00	37,050 00	
					\$5,350 00	\$101,950 00	107,000 00
Routes 4 and 38, Sec. 5	24.....	Dec. 31, 1915	As stated on page 63 of said minutes.....	United States Realty & Improvement Co.....	\$1,321 13	\$24,901 46	
	25.....	Jan. 31, 1916	As stated on page 270 of said minutes.....	United States Realty & Improvement Co.....	1,838 45	84,386 21	
	26.....	Feb. 29, 1916	As stated on page 432 of said minutes.....	United States Realty & Improvement Co.....	1,193 04	22,645 76	
	27.....	Mar. 31, 1916	As stated on page 597 of said minutes.....	United States Realty & Improvement Co.....	1,478 19	28,065 96	
	28.....	April 30, 1916	As stated on page 748 of said minutes.....	United States Realty & Improvement Co.....	1,194 24	22,662 40	
	29.....	May 31, 1916	As stated on page 980 of said minutes.....	United States Realty & Improvement Co.....	2,610 79	49,805 05	
	30.....	June 30, 1916	As stated on page 1173 of said minutes.....	United States Realty & Improvement Co.....	2,150 72	40,843 65	
	31.....	July 31, 1916	As stated on page 1373 of said minutes.....	United States Realty & Improvement Co.....	2,130 28	40,476 13	
	32.....	Aug. 31, 1916	As stated on page 1550 of said minutes.....	United States Realty & Improvement Co.....	2,163 64	41,090 15	
	33.....	Sept. 30, 1916	As stated on page 1743 of said minutes.....	United States Realty & Improvement Co.....	1,871 13	35,551 28	
	34.....	Oct. 31, 1916	As stated on page 1944 of said minutes.....	United States Realty & Improvement Co.....	1,611 23	30,614 34	
							\$2,972,399 68

35	Nov. 30, 1911	Dec. 20, 1916	As stated on page 2118 of said minutes.....	United States Realty & Improvement Co.....	1,346 44	25,582 28	428,049 95
6-R.....	Dec. 31, 1915	Jan. 27, 1916	As stated on page 164 of said minutes.....	United States Realty & Improvement Co.....	\$21,402 49	\$406,947 46	
6-R.....	June 30, 1916	Aug. 11, 1916	As stated on page 1361 of said minutes.....	United States Realty & Improvement Co.....	\$1,250 00	\$23,750 00	
				United States Realty & Improvement Co.....	1,250 00	23,750 00	
10 Supp.....	Dec. 31, 1915	Jan. 12, 1916	As stated on page 65 of said minutes.....	United States Realty & Improvement Co.....	\$2,500 00	\$47,500 00	50,000 00
11 Supp.....	May 31, 1916	June 15, 1916	As stated on page 978 of said minutes.....	United States Realty & Improvement Co.....	\$114 21	\$2,160 99	
12.....	Aug. 31, 1915	Sept. 14, 1916	As stated on page 1549 of said minutes.....	United States Realty & Improvement Co.....	65 93	1,252 75	
13.....	Sept. 30, 1916	Oct. 23, 1916	As stated on page 1755 of said minutes.....	United States Realty & Improvement Co.....	106 92	2,031 48	
14.....	Nov. 30, 1916	Dec. 20, 1916	As stated on page 2118 of said minutes.....	United States Realty & Improvement Co.....	284 11	5,398 08	
				United States Realty & Improvement Co.....	98 29	1,897 58	
					\$699 46	\$12,719 88	13,389 24
20.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 64 of said minutes.....	Rapid Transit Subway Construction Co.....	\$1,992 53	\$37,858 55	
21.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 230 of said minutes.....	Rapid Transit Subway Construction Co.....	1,981 96	37,086 72	
22.....	Feb. 29, 1915	Mar. 16, 1916	As stated on page 432 of said minutes.....	Rapid Transit Subway Construction Co.....	868 86	16,394 37	
23.....	Mar. 31, 1916	April 13, 1916	As stated on page 696 of said minutes.....	Rapid Transit Subway Construction Co.....	991 66	19,841 66	
24.....	April 30, 1916	May 11, 1916	As stated on page 747 of said minutes.....	Rapid Transit Subway Construction Co.....	880 77	16,794 66	
25.....	May 31, 1916	June 15, 1916	As stated on page 978 of said minutes.....	Rapid Transit Subway Construction Co.....	1,711 77	23,528 60	
26.....	June 30, 1916	July 20, 1916	As stated on page 1172 of said minutes.....	Rapid Transit Subway Construction Co.....	1,834 02	34,846 42	
27.....	July 31, 1916	Aug. 16, 1916	As stated on page 1373 of said minutes.....	Rapid Transit Subway Construction Co.....	1,606 94	30,841 90	
28.....	Aug. 31, 1916	Sept. 21, 1916	As stated on page 1596 of said minutes.....	Rapid Transit Subway Construction Co.....	2,463 94	46,814 79	
29.....	Sept. 30, 1916	Oct. 19, 1916	As stated on page 1742 of said minutes.....	Rapid Transit Subway Construction Co.....	1,907 56	36,243 71	
					\$16,194 00	\$307,686 40	323,880 40

Route  
4 and 33  
Sec. 6

## SEVENTH AVENUE-LEXINGTON AVENUE RAPID TRANSIT RAILROAD (SEVENTH AVENUE BRANCH) — Continued

## DISBURSEMENTS — Concluded

## XVI. CONTRACT CONSTRUCTION — Concluded

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. funds	Total
Routes 4 and 38, Sec. 6 — Cont'd	4-R.....	Dec. 31, 1915	As stated on page 120 of said minutes....	Rapid Transit Subway Construction Co.....	\$200 00	\$3,800 00	
	5-R.....	Jan. 31, 1916	As stated on page 332 of said minutes....	Rapid Transit Subway Construction Co.....	1,130 96	21,488 17	
	6.....	Feb. 29, 1916	As stated on page 481 of said minutes....	Rapid Transit Subway Construction Co.....	100 00	1,900 00	
	7.....	Mar. 31, 1916	As stated on page 635 of said minutes....	Rapid Transit Subway Construction Co.....	150 00	2,850 00	
	8.....	April 30, 1916	As stated on page 705 of said minutes....	Rapid Transit Subway Construction Co.....	100 00	1,900 00	
	9.....	May 31, 1916	As stated on page 1022 of said minutes....	Rapid Transit Subway Construction Co.....	200 00	3,800 00	
	10.....	June 30, 1916	As stated on page 1227 of said minutes....	Rapid Transit Subway Construction Co.....	200 00	3,800 00	
	11.....	July 31, 1916	As stated on page 1422 of said minutes....	Rapid Transit Subway Construction Co.....	150 00	2,850 00	
	12.....	Aug. 31, 1916	As stated on page 1628 of said minutes....	Rapid Transit Subway Construction Co.....	300 00	5,700 00	
	13.....	Sept. 30, 1916	As stated on page 1832 of said minutes....	Rapid Transit Subway Construction Co.....	200 00	3,800 00	
					\$2,730 96	\$51,888 17	\$54,619 13
	9 Supp.....	Dec. 31, 1915	As stated on page 65 of said minutes....	Rapid Transit Subway Construction Co.....	\$44 37	\$843 03	
	10 Supp.....	Jan. 31, 1916	As stated on page 230 of said minutes....	Rapid Transit Subway Construction Co.....	58 55	1,112 41	
	11.....	Feb. 29, 1916	As stated on page 432 of said minutes....	Rapid Transit Subway Construction Co.....	65 93	1,252 75	
	12.....	Mar. 31, 1916	As stated on page 596 of said minutes....	Rapid Transit Subway Construction Co.....	72 90	1,385 10	
	13.....	May 31, 1916	As stated on page 978 of said minutes....	Rapid Transit Subway Construction Co.....	24 79	470 93	
	14.....	June 30, 1916	As stated on page 1178 of said minutes....	Rapid Transit Subway Construction Co.....	35 64	677 16	
					\$302 18	\$5,741 38	6,043 56
							\$5,845,382 06

Route 4 and 36, Sec. 6-A	15.....	Jan. 31, 1916	Feb. 24, 1916	As stated on page 308 of said minutes.....	Holbrook, Cabot & Rollins Cor- poration.....	\$310 53	\$5,900 17
	Final.....	.....	June 14, 1916	As stated on page 308 of said minutes.....	Holbrook, Cabot & Rollins Cor- poration.....	30,083 98	41,086 57
						\$30,374 51	\$46,986 74
Sec. 1 Building at 111 Green- wich St.	Final.....	July 24, 1915	June 8, 1916	As stated on page 923 of said minutes.....	American Bank Note Co.....	\$6,500 00	\$6,500 00
Total amount paid to the various contractors for work done and materials furnished under the different contracts for the construction of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad (Seventh Avenue Branch) from January 1, 1916, to December 31, 1916.....							\$3,932,243 31

**LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS**  
**CORPORATE STOCK**

**XVII. CONTRACT CONSTRUCTION**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Lexington Avenue Subway.

ROUTES AND SECTIONS	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Routes No. 43-26 Park Avenue-Lexington Ave. connection	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	\$34,000 00	.....	\$34,000 00	\$473,900 00
	Dec. 21, 1915	2 1/2	Mar. 6, 1916	Jan. 29, 1916	.....	816 37	.....	816 37	
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 29, 1916	.....	13,133 63	.....	13,133 63	
	Feb. 18, 1916	2 1/2	Apr. 18, 1916	Feb. 24, 1916	.....	28,000 00	.....	28,000 00	
	Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 13, 1916	.....	3,000 00	.....	3,000 00	
	Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 22, 1916	.....	31,000 00	.....	31,000 00	
	Mar. 24, 1916	2 1/2	May 25, 1916	Apr. 3, 1916	.....	4,000 00	.....	4,000 00	
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	24,000 00	.....	24,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 1, 1916	.....	2,000 00	.....	2,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 25, 1916	.....	15,000 00	.....	15,000 00	
	May 20, 1916	3	Dec. 31, 1916	June 21, 1916	.....	64,000 00	.....	64,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 28, 1916	.....	6,000 00	.....	6,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 28, 1916	.....	53,000 00	.....	53,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	8,000 00	.....	8,000 00	
	Sept. 19, 1916	3 1/2	Dec. 31, 1916	Aug. 28, 1916	.....	36,000 00	.....	36,000 00	
	Oct. 6, 1916	3 1/2	Dec. 31, 1916	Sept. 19, 1916	.....	43,000 00	.....	43,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 9, 1916	.....	20,000 00	.....	20,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	2,000 00	.....	2,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 27, 1916	.....	28,000 00	.....	28,000 00	
	Oct. 18, 1916	3 1/2	Apr. 16, 1917	Oct. 27, 1916	.....	1,900 00	.....	1,900 00	
	Nov. 1, 1916	3 1/2	Mar. 15, 1917	Nov. 6, 1916	.....	4,000 00	.....	4,000 00	
	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 1, 1916	.....	20,000 00	.....	20,000 00	
	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 6, 1916	.....	3,000 00	.....	3,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 26, 1916	.....	25,000 00	.....	25,000 00	
Route No. 5 Section No. 7	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	17,000 00	.....	17,000 00	
	Dec. 21, 1915	2 1/2	Mar. 6, 1916	Jan. 29, 1916	.....	11,000 00	.....	11,000 00	
	Feb. 18, 1916	2 1/2	Apr. 18, 1916	Feb. 24, 1916	.....	52,000 00	.....	52,000 00	

## AUDITOR'S REPORT

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Route No. 5 Section No. 8	Route No. 5 Section No. 9	Route No. 4 Section No. 10	Route No. 5 Section No. 11
Feb. 24, 1916 Feb. 24, 1916 Mar. 2, 1916 Mar. 2, 1916 Apr. 1, 1916 Apr. 1, 1916 May 20, 1916 May 20, 1916 June 22, 1916 June 22, 1916 July 21, 1916 July 21, 1916 Aug. 16, 1916 Aug. 16, 1916 Oct. 6, 1916 Oct. 6, 1916 Nov. 1, 1916 Nov. 1, 1916 Dec. 1, 1916 Dec. 1, 1916	Feb. 24, 1916 Feb. 24, 1916 Mar. 2, 1916 Mar. 2, 1916 Apr. 1, 1916 Apr. 1, 1916 May 20, 1916 May 20, 1916 June 22, 1916 June 22, 1916 July 21, 1916 July 21, 1916 Aug. 16, 1916 Aug. 16, 1916 Oct. 6, 1916 Oct. 6, 1916 Nov. 1, 1916 Nov. 1, 1916 Dec. 1, 1916 Dec. 1, 1916	Nov. 18, 1915 Nov. 18, 1915 Feb. 1, 1916 Feb. 1, 1916 June 23, 1916 June 23, 1916 Nov. 18, 1915 Nov. 18, 1915 Apr. 8, 1916 Apr. 8, 1916 May 20, 1916 May 20, 1916 July 21, 1916 July 21, 1916 Aug. 16, 1916 Aug. 16, 1916 Nov. 1, 1916 Nov. 1, 1916	Nov. 15, 1915 Nov. 15, 1915 Apr. 8, 1916 Apr. 8, 1916 May 20, 1916 May 20, 1916 July 21, 1916 July 21, 1916 Aug. 16, 1916 Aug. 16, 1916 Nov. 1, 1916 Nov. 1, 1916
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Apr. 24, 1916 Apr. 24, 1916 May 22, 1916 May 22, 1916 Apr. 20, 1916 Apr. 20, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Feb. 6, 1917 Feb. 6, 1917 Apr. 16, 1917 Apr. 16, 1917 June 30, 1917 June 30, 1917 Mar. 12, 1917 Mar. 12, 1917	Mar. 12, 1916 Mar. 12, 1916 Mar. 22, 1916 Mar. 22, 1916 Apr. 19, 1916 Apr. 19, 1916 May 1, 1916 May 1, 1916 June 22, 1916 June 22, 1916 July 21, 1916 July 21, 1916 Aug. 1, 1916 Aug. 1, 1916 Oct. 2, 1916 Oct. 2, 1916 Nov. 28, 1916 Nov. 28, 1916 Dec. 4, 1916 Dec. 4, 1916 Dec. 20, 1916 Dec. 20, 1916	Jan. 18, 1916 Jan. 18, 1916 Mar. 2, 1916 Mar. 2, 1916 July 27, 1916 July 27, 1916 Sept. 2, 1916 Sept. 2, 1916 Oct. 23, 1916 Oct. 23, 1916 Dec. 11, 1916 Dec. 11, 1916 Feb. 1, 1916 Feb. 1, 1916 Aug. 26, 1916 Aug. 26, 1916 Jan. 10, 1916 Jan. 10, 1916 May 26, 1916 May 26, 1916 Aug. 17, 1916 Aug. 17, 1916 Nov. 6, 1916 Nov. 6, 1916 Jan. 19, 1916 Jan. 19, 1916 May 26, 1916 May 26, 1916 June 14, 1916 June 14, 1916 Aug. 17, 1916 Aug. 17, 1916 Nov. 2, 1916 Nov. 2, 1916 Nov. 2, 1916 Nov. 2, 1916	Jan. 19, 1916 Jan. 19, 1916 Mar. 2, 1916 Mar. 2, 1916 July 27, 1916 July 27, 1916 Sept. 2, 1916 Sept. 2, 1916 Oct. 23, 1916 Oct. 23, 1916 Dec. 11, 1916 Dec. 11, 1916 Feb. 1, 1916 Feb. 1, 1916 Aug. 26, 1916 Aug. 26, 1916 Jan. 10, 1916 Jan. 10, 1916 May 26, 1916 May 26, 1916 Aug. 17, 1916 Aug. 17, 1916 Nov. 6, 1916 Nov. 6, 1916 Jan. 19, 1916 Jan. 19, 1916 May 26, 1916 May 26, 1916 June 14, 1916 June 14, 1916 Aug. 17, 1916 Aug. 17, 1916 Nov. 2, 1916 Nov. 2, 1916 Nov. 2, 1916 Nov. 2, 1916
6,000 00 12,704 85 3,204 15 3,000 00 26,000 00 1,000 00 80,000 00 18,000 00 24,000 00 28,000 00 28,000 00 28,000 00 28,000 00 6,000 00 20,000 00 20,000 00 6,000 00 22,000 00 26,000 00 26,000 00 26,000 00	6,000 00 12,704 85 3,204 15 3,000 00 26,000 00 1,000 00 80,000 00 18,000 00 24,000 00 28,000 00 28,000 00 28,000 00 28,000 00 6,000 00 20,000 00 20,000 00 6,000 00 22,000 00 26,000 00 26,000 00 26,000 00	25,000 00 276,000 00 41,000 00 2,400 00 6,000 00 56,000 00 1,000 00 7,367 36 4,632 64 238,000 00 9,000 00 13,000 00 2,000 00 5,000 00 16,000 00 50,998 73 200,001 27	25,000 00 276,000 00 41,000 00 2,400 00 6,000 00 56,000 00 1,000 00 7,367 36 4,632 64 238,000 00 9,000 00 13,000 00 2,000 00 5,000 00 16,000 00 50,998 73 200,001 27
328,000 00	108,000 00	338,999 44	316,000 00
300,000 00	300,000 00		

## LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS — Concluded

## CORPORATE STOCK — Concluded

## XVII. CONTRACT CONSTRUCTION — Concluded

ROUTES AND SECTIONS	Date of sale	Interest rate	Maturity	Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	Total
Route No. 5 Section No. 12	Jan. 5, 1916 May 1, 1916	2½ 3	Mar. 6, 1916 Dec. 31, 1916 Rescinded. . . .	Jan. 26, 1916 May 9, 1916 Aug. 22, 1916	..... ..... .....	\$26,000 00 73,000 00 894 14	..... ..... .....	\$26,000 00 73,000 00 894 14	\$98,735 86
Route No. 5 Section No. 13	Nov. 15, 1915 Feb. 10, 1916 Feb. 24, 1916 Mar. 24, 1916 April 8, 1916 May 1, 1916 May 29, 1916 May 20, 1916 July 21, 1916 Sept. 1, 1916 Sept. 19, 1916 Oct. 6, 1916 Nov. 1, 1916 Dec. 1, 1916	2½ 4 2½ 2½ 2½ 3½ 3 3 3 3 3 3½ 3½ 3½	Mar. 28, 1916 July 1, 1916 April 24, 1916 May 25, 1916 April 20, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Feb. 9, 1917 Mar. 15, 1917	Jan. 19, 1916 Feb. 15, 1916 Mar. 13, 1916 April 3, 1916 April 11, 1916 May 17, 1916 June 14, 1916 July 12, 1916 Aug. 8, 1916 Sept. 13, 1916 Oct. 9, 1916 Oct. 9, 1916 Nov. 13, 1916 Dec. 11, 1916	..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....	67,000 00 38,000 00 54,000 00 3,000 00 24,000 00 19,000 00 14,000 00 12,000 00 11,000 00 6,000 00 2,705 48 6,294 52 3,000 00 5,000 00	..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....	67,000 00 38,000 00 54,000 00 3,000 00 24,000 00 19,000 00 14,000 00 12,000 00 11,000 00 6,000 00 2,705 48 6,294 52 3,000 00 5,000 00	265,000 00
Route No. 5, Section No. 14	Feb. 10, 1916 Feb. 10, 1916 Feb. 18, 1916 Feb. 24, 1916 Feb. 24, 1916	4 4 2½ 2½ 2½	July 1, 1916 July 1, 1916 April 18, 1916 April 24, 1916	Feb. 15, 1916 Feb. 15, 1916 Feb. 24, 1916 Mar. 13, 1916	..... ..... ..... .....	5,000 00 6,000 00 1,000 00 6,000 00	..... ..... ..... .....	5,000 00 6,000 00 1,000 00 6,000 00	18,000 00
Route No. 5, Section No. 15	Dec. 24, 1915 Feb. 10, 1916 Feb. 10, 1916 Feb. 10, 1916 May 20, 1916 July 21, 1916 Oct. 6, 1916 Oct. 6, 1916	2½ 4 4 4 3 3 3½ 3½	Mar. 8, 1916 July 1, 1916 July 1, 1916 Dec. 31, 1916 Dec. 31, 1916 Feb. 9, 1917 Feb. 9, 1917	Feb. 11, 1916 Feb. 11, 1916 Feb. 11, 1916 May 25, 1916 July 27, 1916 Oct. 16, 1916 Oct. 16, 1916	..... ..... ..... ..... ..... ..... .....	133 63 142,376 76 182,000 00 51,000 00 34,000 00 133,000 00 2,000 00	..... ..... ..... ..... ..... ..... .....	133 63 142,376 76 182,000 00 51,000 00 34,000 00 133,000 00 2,000 00	544,510 39

Total amount of proceeds applicable to the construction of the Lexington Avenue Subway from January 1, 1916, to December 31, 1916. . . . . \$2,790,835 69

**LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS**  
**DISBURSEMENTS**

**XVIII. CONTRACT CONSTRUCTION**

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts for the construction of the Lexington Avenue Subway from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount, city funds	Total
R. 5, Sec. 7. City funds.	15.....	Dec. 31, 1915	As stated on page 63 of the minutes of the Public Service Commission.....	Rapid Transit Subway Construction Co.....	\$16,390 50	
	16.....	Jan. 31, 1916	As stated on page 270 of said minutes.....	Rapid Transit Subway Construction Co.....	32,023 00	
	17.....	Mar. 16, 1916	As stated on page 433 of said minutes.....	Rapid Transit Subway Construction Co.....	16,851 29	
	18.....	Mar. 31, 1916	As stated on page 597 of said minutes.....	Rapid Transit Subway Construction Co.....	25,803 13	
	19.....	Apr. 30, 1916	As stated on page 796 of said minutes.....	Rapid Transit Subway Construction Co.....	25,239 30	
	20.....	May 31, 1916	As stated on page 979 of said minutes.....	Rapid Transit Subway Construction Co.....	18,331 90	
	21.....	June 30, 1916	As stated on page 1172 of said minutes.....	Rapid Transit Subway Construction Co.....	22,146 51	
	22.....	July 31, 1916	As stated on page 1373 of said minutes.....	Rapid Transit Subway Construction Co.....	27,940 56	
	23.....	Aug. 31, 1916	As stated on page 1506 of said minutes.....	Rapid Transit Subway Construction Co.....	25,020 34	
	24.....	Sept. 30, 1916	As stated on page 1743 of said minutes.....	Rapid Transit Subway Construction Co.....	30,394 13	
	25.....	Oct. 31, 1916	As stated on page 1944 of said minutes.....	Rapid Transit Subway Construction Co.....	22,404 80	
	26.....	Nov. 30, 1916	As stated on page 2118 of said minutes.....	Rapid Transit Subway Construction Co.....	24,602 06	\$377,153 51
	4-R.....	Dec. 31, 1916	As stated on page 120 of said minutes.....	Rapid Transit Subway Construction Co.....	\$11,558 02	
	5.....	Jan. 31, 1916	As stated on page 352 of said minutes.....	Rapid Transit Subway Construction Co.....	5,500 00	
	6.....	Feb. 29, 1916	As stated on page 491 of said minutes.....	Rapid Transit Subway Construction Co.....	3,000 00	
	7.....	Mar. 31, 1916	As stated on page 635 of said minutes.....	Rapid Transit Subway Construction Co.....	4,500 00	
	8.....	Apr. 30, 1916	As stated on page 796 of said minutes.....	Rapid Transit Subway Construction Co.....	4,500 00	
	9.....	May 31, 1916	As stated on page 1022 of said minutes.....	Rapid Transit Subway Construction Co.....	3,000 00	
	10.....	June 30, 1916	As stated on page 1227 of said minutes.....	Rapid Transit Subway Construction Co.....	4,000 00	
	11.....	July 31, 1916	As stated on page 1423 of said minutes.....	Rapid Transit Subway Construction Co.....	4,000 00	
	12.....	Aug. 31, 1916	As stated on page 1608 of said minutes.....	Rapid Transit Subway Construction Co.....	4,500 00	
	13.....	Sept. 30, 1916	As stated on page 1832 of said minutes.....	Rapid Transit Subway Construction Co.....	2,500 00	
	14.....	Oct. 31, 1916	As stated on page 1868 of said minutes.....	Rapid Transit Subway Construction Co.....	2,500 00	\$0,558 02

**LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS — Continued**  
**DISBURSEMENTS — Continued**  
**XVIII. CONTRACT CONSTRUCTION — Continued**

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount, city funds	Total
R. 5, Sec. 7. L. R. T. Co. Funds	15.....	Dec. 31, 1915	As stated on page 68 of said minutes.	Rapid Transit Subway Construction Co.	\$16,390 51	
	16.....	Feb. 17, 1916	As stated on page 271 of said minutes.	Rapid Transit Subway Construction Co.	32,023 01	
	17.....	Feb. 30, 1916	As stated on page 433 of said minutes.	Rapid Transit Subway Construction Co.	16,851 29	
	18.....	Mar. 31, 1916	As stated on page 597 of said minutes.	Rapid Transit Subway Construction Co.	25,808 73	
	19.....	Apr. 30, 1916	As stated on page 765 of said minutes.	Rapid Transit Subway Construction Co.	25,259 31	
	20.....	May 31, 1916	As stated on page 979 of said minutes.	Rapid Transit Subway Construction Co.	18,331 81	
	21.....	June 30, 1916	As stated on page 1172 of said minutes.	Rapid Transit Subway Construction Co.	22,146 33	
	22.....	July 31, 1916	As stated on page 1375 of said minutes.	Rapid Transit Subway Construction Co.	27,940 56	
	23.....	Aug. 31, 1916	As stated on page 1596 of said minutes.	Rapid Transit Subway Construction Co.	25,020 35	
	24.....	Sept. 30, 1916	As stated on page 1743 of said minutes.	Rapid Transit Subway Construction Co.	20,394 13	
	25.....	Oct. 31, 1916	As stated on page 1943 of said minutes.	Rapid Transit Subway Construction Co.	32,404 50	
	26.....	Nov. 30, 1916	As stated on page 2118 of said minutes.	Rapid Transit Subway Construction Co.	31,002 06	
	4-R.....	Dec. 31, 1915	As stated on page 120 of said minutes.	Rapid Transit Subway Construction Co.	\$11,556 02	\$277,132 57
	5.....	Jan. 31, 1916	As stated on page 132 of said minutes.	Rapid Transit Subway Construction Co.	5,500 00	
	6.....	Feb. 29, 1916	As stated on page 431 of said minutes.	Rapid Transit Subway Construction Co.	8,000 00	
	7.....	Mar. 31, 1916	As stated on page 451 of said minutes.	Rapid Transit Subway Construction Co.	4,500 00	
	8.....	Apr. 30, 1916	As stated on page 635 of said minutes.	Rapid Transit Subway Construction Co.	4,500 00	
	9.....	May 31, 1916	As stated on page 765 of said minutes.	Rapid Transit Subway Construction Co.	3,000 00	
	10.....	June 30, 1916	As stated on page 1072 of said minutes.	Rapid Transit Subway Construction Co.	4,000 00	
	11.....	July 31, 1916	As stated on page 1227 of said minutes.	Rapid Transit Subway Construction Co.	4,000 00	
	12.....	Aug. 31, 1916	As stated on page 1423 of said minutes.	Rapid Transit Subway Construction Co.	5,000 00	
	13.....	Sept. 30, 1916	As stated on page 1637 of said minutes.	Rapid Transit Subway Construction Co.	4,500 00	
	14.....	Oct. 31, 1916	As stated on page 1832 of said minutes.	Rapid Transit Subway Construction Co.	4,500 00	
	15.....	Nov. 30, 1916	As stated on page 1963 of said minutes.	Rapid Transit Subway Construction Co.	2,500 00	
	28.....	Dec. 31, 1915	As stated on page 68 of said minutes.	Bradley Contracting Co.	\$9,185 05	50,586 02
	29.....	Jan. 31, 1916	As stated on page 390 of said minutes.	Bradley Contracting Co.	4,893 79	
	30.....	Feb. 29, 1916	As stated on page 427 of said minutes.	Bradley Contracting Co.	13,238 04	
	31.....	Mar. 31, 1916	As stated on page 477 of said minutes.	Bradley Contracting Co.	5,812 01	
	32.....	Apr. 30, 1916	As stated on page 1172 of said minutes.	Bradley Contracting Co.	41,314 45	
	33.....	May 31, 1916	As stated on page 1445 of said minutes.	Bradley Contracting Co.	25,709 73	
	34.....	June 30, 1916	As stated on page 2097 of said minutes.	Bradley Contracting Co.		
	3, supp.....	June 30, 1916	As stated on page 1692 of said minutes.	Bradley Contracting Co.	\$9,927 85	98,641 02
						9,927 85
R. 5, Sec. 8.....						

R. 5, Sec. 9.	42.	Jan. 15, 1916	Jan. 27, 1916	As stated on page 164 of said minutes.	Patrick McGovern & Co., Assignees.	\$21,787 78
	Final.	June 8, 1916	June 8, 1916	As stated on page 683 of said minutes.	Patrick McGovern & Co., Assignees.	62,503 71
	8, supp.	Jan. 15, 1916	Jan. 27, 1916	As stated on page 164 of said minutes.	Patrick McGovern & Co., Assignees.	3,212 83
	1-R.	Jan. 15, 1916	Feb. 3, 1916	As stated on page 198 of said minutes.	Patrick McGovern & Co., Assignees.	275,000 00
	See note A.	Jan. 15, 1916	June 28, 1916	As stated on page 185 of said minutes.	Patrick McGovern & Co., Assignees.	1,745 21
R. 5, Sec. 10.	49.	Dec. 31, 1915	Jan. 16, 1916	As stated on page 64 of said minutes.	Bradley Contracting Co.	86,007 85
	50.	Mar. 31, 1916	April 12, 1916	As stated on page 594 of said minutes.	Bradley Contracting Co.	49,179 90
	51.	May 18, 1916	May 18, 1916	As stated on page 794 of said minutes.	Bradley Contracting Co.	44,132 82
	52.	July 31, 1916	Aug. 11, 1916	As stated on page 1361 of said minutes.	Bradley Contracting Co.	11,747 87
	Final.	July 31, 1916	Nov. 1, 1916	As stated on page 1539 of said minutes.	Bradley Contracting Co.	237,990 89
R. 5, Sec. 11.	50.	Dec. 31, 1915	Jan. 13, 1916	As stated on page 64 of said minutes.	Bradley Contracting Co.	86,846 90
	51.	Mar. 31, 1916	April 13, 1916	As stated on page 594 of said minutes.	Bradley Contracting Co.	16,188 81
	52.	April 30, 1916	May 16, 1916	As stated on page 794 of said minutes.	Bradley Contracting Co.	1,176 89
	53.	July 31, 1916	Aug. 11, 1916	As stated on page 1361 of said minutes.	Bradley Contracting Co.	11,738 84
	Final.	July 31, 1916	Aug. 11, 1916	As stated on page 1788 of said minutes.	Bradley Contracting Co.	251,587 62
R. 5, Sec. 12.	54, supp.	May 31, 1916	June 9, 1916	As stated on page 933 of said minutes.	Bradley Contracting Co.	55,915 81
	7.	July 31, 1916	Aug. 11, 1916	As stated on page 1361 of said minutes.	Bradley Contracting Co.	7,668 23
R. 5, Sec. 13.	47.	Jan. 10, 1916	Jan. 20, 1916	As stated on page 120 of said minutes.	Oscar Daniels Co.	536,843 04
	Final.	Jan. 10, 1916	May 4, 1916	As stated on page 711 of said minutes.	Oscar Daniels Co.	72,760 10
R. 5, Sec. 13.	48.	Dec. 31, 1915	Jan. 13, 1916	As stated on page 64 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	927,536 00
	49.	Jan. 31, 1916	Feb. 10, 1916	As stated on page 228 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	27,723 92
	50.	Feb. 29, 1916	Mar. 2, 1916	As stated on page 898 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	67,853 85
	51.	Mar. 31, 1916	Apr. 6, 1916	As stated on page 560 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	24,362 82
	52.	Apr. 30, 1916	May 11, 1916	As stated on page 746 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	19,186 87
	53.	May 31, 1916	June 8, 1916	As stated on page 983 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	14,166 04
	54.	June 30, 1916	July 6, 1916	As stated on page 1090 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	11,812 81
	55.	July 31, 1916	Aug. 2, 1916	As stated on page 1277 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	10,506 52
	56.	Aug. 31, 1916	Sept. 8, 1916	As stated on page 1513 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	9,056 55
	57.	Sept. 30, 1916	Oct. 5, 1916	As stated on page 1676 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	2,385 22
	58.	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1893 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	3,723 52
	59.	Nov. 30, 1916	Dec. 6, 1916	As stated on page 2037 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	5,099 26
R. 5, Sec. 14.	6, supp.	Jan. 31, 1916	Mar. 28, 1916	As stated on page 430 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	\$3,070 03
	7.	July 31, 1916	Sept. 28, 1916	As stated on page 1617 of said minutes.	McMillen, Snares & Trust, Inc., Assignees	6,363 27
	37.	Jan. 31, 1916	Feb. 10, 1916	As stated on page 228 of said minutes.	Arthur Mullen & Hoff Co.	\$5,341 35

**LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS — Concluded**  
**DISBURSEMENTS — Concluded**  
**XVIII. CONTRACT CONSTRUCTION — Concluded**

ROUTE AND SECTION	Requisition	To date	Payments authorised	To contractor	Amount, city funds	Total
R. 5, Sec. 14.	37.....	Jan. 31, 1916	Feb. 10, 1916	Arthur McMullen & Hoff Co. ....	\$5,118.37	
	Final.....	.....	Oct. 26, 1916	Arthur McMullen & Hoff Co. ....	9,563.24	\$14,681.51
	2, supp.....	Jan. 31, 1916	Feb. 17, 1916	Arthur McMullen & Hoff Co. ....	1,440.60	1,440.60
	R. ....	Jan. 31, 1916	Mar. 2, 1916	Arthur McMullen & Hoff Co. ....	\$6,000.00	6,000.00
R. 5, Sec. 15.	A. ....	Oct. 31, 1915	Feb. 3, 1916	Rodgers & Hagerly, Inc. ....	\$325,000.00	
	45.....	April 30, 1916	May 18, 1916	Rodgers & Hagerly, Inc. ....	50,801.12	
	Final.....	.....	Sept. 28, 1916	Rodgers & Hagerly, Inc. ....	135,378.35	
	5, Supp.....	June 30, 1916	July 20, 1916	Rodgers & Hagerly, Inc. ....	94,963.02	511,179.47
Total amount paid to the various contractors for work done and materials furnished under the different contracts for the construction of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad (Lexington Avenue Branch, Route 5) from January 1, 1916 to December 31, 1916.....						34,002.02
Total amount paid to the various contractors for work done and materials furnished under the different contracts for the construction of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad (Lexington Avenue Branch, Route 5) from January 1, 1916 to December 31, 1916.....						\$3,687,371.72

(a) Payment of final estimate, Route 5, Sec. 9, reduced by the amount of interest on retained percentage payments as per resolution of Board of Estimate, Jan. 21, 1916.

# RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3 JEROME AVENUE ELEVATED LINE

## XIX. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Jerome Avenue Elevated Line.

Route and Section	Issue of Stock							
	Date of sale	Interest rate	Maturity	Date of issue	Rate of premium	Amount issued	Amount of proceeds credited	Total
Route No. 16, Section No. 1	Feb. 24, 1916	2½	April 24, 1916	Mar. 13, 1916	.....	\$1,000 00	\$1,000 00	\$49,095 97
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	1,000 00	1,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 28, 1916	.....	2,000 00	2,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	45,095 97	45,095 97	
Route No. 16 Section No. 2	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	1,000 00	1,000 00	47,200 00
	Feb. 18, 1916	2½	April 18, 1916	Feb. 24, 1916	.....	1,000 00	1,000 00	
	May 20, 1916	3	Dec. 31, 1916	June 28, 1916	.....	2,000 00	2,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	27,000 00	27,000 00	
R. R. Duct Line, Watson Ave., East 157th Street Route No. 16, Section Nos. 1-2, Station Finish	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 13, 1916	.....	16,200 00	16,200 00	10,307 00
	Nov. 1, 1916	3½	April 2, 1917	Nov. 13, 1916	.....	10,307 00	10,307 00	
	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	10,000 00	10,000 00	
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	10,000 00	10,000 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Jerome Avenue Elevated Line from January 1, 1916, to December 31, 1916	Feb. 24, 1916	2½	April 24, 1916	Mar. 13, 1916	.....	10,000 00	10,000 00	241,000 00
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	10,000 00	10,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 28, 1916	.....	7,000 00	7,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	20,000 00	20,000 00	
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	15,000 00	15,000 00	
	Feb. 18, 1916	2½	April 18, 1916	Feb. 24, 1916	.....	19,000 00	19,000 00	
	May 20, 1916	3	Dec. 31, 1916	June 28, 1916	.....	16,000 00	16,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 19, 1916	.....	32,000 00	32,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	37,000 00	37,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 11, 1916	.....	20,000 00	20,000 00	
	Oct. 6, 1916	3½	Feb. 2, 1917	Oct. 15, 1916	.....	19,000 00	19,000 00	
	Nov. 1, 1916	3½	April 16, 1917	Oct. 23, 1916	.....	24,000 00	24,000 00	
Nov. 28, 1916	3	June 30, 1917	Nov. 28, 1916	.....	2,000 00	2,000 00		
Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 15, 1916	.....	10,000 00	10,000 00		

# JEROME AVENUE RAPID TRANSIT RAILROAD DISBURSEMENTS

## XX. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Jerome Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount city funds	Amount I. R. T. Co. funds	Total
R. 16, Sec. 1	21.....	Dec. 31, 1915	As stated on page 282 of the minutes of the Public Service Commission.	Oscar Daniels Co.	\$931 38	\$11,804 31	
	22.....	Jan. 31, 1916	As stated on page 401 of said minutes.	Oscar Daniels Co.	545 59	10,364 14	
	23.....	Feb. 29, 1916	As stated on page 401 of said minutes.	Oscar Daniels Co.	50 42	955 05	
	24.....	Mar. 31, 1916	As stated on page 585 of said minutes.	Oscar Daniels Co.	280 20	5,323 87	
	Final.....	Sept. 6, 1916	As stated on page 1513 of said minutes.	Oscar Daniels Co.	48,006 94	17,307 53	
R. 16, Sec. 2	B.....	Mar. 31, 1916	As stated on page 1435 of said minutes.	Oscar Daniels Co.	\$47,504 53	\$45,761 93	\$93,266 46
	4 Supp.....	Jan. 10, 1916	As stated on page 505 of said minutes.	Oscar Daniels Co.	\$2,000 00	\$38,000 00	40,000 00
	20.....	Dec. 31, 1915	As stated on page 228 of said minutes.	Cooper & Evans Co.	\$33 18	\$630 58	663 73
	21.....	Feb. 17, 1916	As stated on page 271 of said minutes.	Cooper & Evans Co.	\$920 12	\$17,452 43	
	22.....	Feb. 29, 1916	As stated on page 480 of said minutes.	Cooper & Evans Co.	271 45	5,137 63	
R. 16, Sec. 3	23.....	Mar. 31, 1916	As stated on page 740 of said minutes.	Cooper & Evans Co.	18 31	\$47 81	
	24.....	Apr. 30, 1916	As stated on page 1513 of said minutes.	Cooper & Evans Co.	253 75	4,916 27	
	Final.....	Sept. 8, 1916	As stated on page 1513 of said minutes.	Cooper & Evans Co.	15,502 33		
	G.....	Apr. 30, 1916	As stated on page 1025 of said minutes.	Cooper & Evans Co.	\$16,970 68	\$27,904 03	44,874 99
	H.....	Apr. 30, 1916	As stated on page 1132 of said minutes.	Cooper & Evans Co.	\$3,206 70	\$48,687 30	
R. 16, Sec. 4	2 Supp.....	Dec. 31, 1915	As stated on page 278 of said minutes.	Cooper & Evans Co.	26 812 06	\$6,067 94	
	2 Supp.....	Dec. 31, 1915	As stated on page 1513 of said minutes.	Cooper & Evans Co.	\$28,118 76	\$67,315 24	95,434 00
	2 Supp.....	Dec. 31, 1915	As stated on page 1513 of said minutes.	Cooper & Evans Co.	\$114 35	\$3,173 81	3,288 16
	2 Supp.....	Dec. 31, 1915	As stated on page 1513 of said minutes.	Cooper & Evans Co.	\$6,148 18		
	2 Supp.....	Dec. 31, 1915	As stated on page 1513 of said minutes.	Cooper & Evans Co.	\$104,889 06	\$181,964 56	286,853 62
Total amount paid to the various contractors for work done and materials furnished under the different contracts for construction of the Jerome Avenue Rapid Transit Railroad (Route 16) from January 1, 1916, to December 31, 1916.							\$286,853 62

**SOUTHERN BOULEVARD AND WESTCHESTER AVENUE RAPID TRANSIT RAILROAD**  
**XXI. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Southern Boulevard-Westchester Avenue Rapid Transit Railroad.

Route and Section	Issues of Stock						Total
	Date of sale	Interest rate	Maturity	Date of issue	Rate of premium	Amount issued	Amount of proceeds credited
Routes No. 19 and 22, Section No. 1	Nov. 14, 1915	3 1/2	Mar. 23, 1916	Jan. 19, 1916	.....	\$45,000.00	\$45,000.00
	Feb. 14, 1916	3 1/2	Apr. 17, 1916	Feb. 24, 1916	.....	6,750.00	28,750.00
	Feb. 16, 1916	3 1/2	Apr. 18, 1916	Feb. 24, 1916	.....	20,250.00	28,750.00
	Feb. 17, 1916	3 1/2	Apr. 18, 1916	Mar. 23, 1916	.....	33,000.00	19,000.00
	Feb. 24, 1916	3 1/2	Apr. 20, 1916	Mar. 23, 1916	.....	19,000.00	19,000.00
	Mar. 8, 1916	3 1/2	Apr. 20, 1916	Apr. 17, 1916	.....	25,000.00	35,000.00
	May 1, 1916	3 1/2	Dec. 31, 1916	May 17, 1916	.....	54,000.00	54,000.00
	May 20, 1916	3 1/2	Dec. 31, 1916	June 21, 1916	.....	54,000.00	54,000.00
	Aug. 10, 1916	3 1/2	Dec. 31, 1916	July 19, 1916	.....	47,000.00	47,000.00
	Sept. 1, 1916	3 1/2	Dec. 31, 1916	Aug. 16, 1916	.....	42,000.00	42,000.00
	Sept. 14, 1916	3 1/2	Dec. 31, 1916	Sept. 16, 1916	.....	45,000.00	45,000.00
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	39,419.83	39,419.83
	Nov. 1, 1916	3 1/2	Apr. 16, 1917	Nov. 6, 1916	.....	31,000.00	31,000.00
	Nov. 1, 1916	3 1/2	Apr. 16, 1917	Nov. 13, 1916	.....	2,000.00	2,000.00
Section No. 1-A	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 13, 1916	.....	40,000.00	40,000.00
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Dec. 13, 1916	.....	37,000.00	37,000.00
	Jan. 18, 1916	2 1/2	Mar. 6, 1916	Jan. 9, 1916	.....	3,000.00	3,000.00
	Feb. 24, 1916	2 1/2	Apr. 13, 1916	Feb. 24, 1916	.....	2,000.00	2,000.00
	Feb. 24, 1916	2 1/2	Apr. 13, 1916	Mar. 13, 1916	.....	14,000.00	14,000.00
	Feb. 24, 1916	2 1/2	Apr. 13, 1916	Mar. 13, 1916	.....	15,800.00	15,800.00
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	1,000.00	1,000.00
	Apr. 20, 1916	3	Dec. 31, 1916	May 25, 1916	.....	1,000.00	1,000.00
	May 20, 1916	3	Dec. 31, 1916	June 28, 1916	.....	2,000.00	2,000.00
	May 23, 1916	3	Dec. 31, 1916	July 19, 1916	.....	2,000.00	2,000.00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	1,000.00	1,000.00
	Sept. 16, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	2,000.00	2,000.00
	Oct. 6, 1916	3 1/2	Sept. 9, 1917	Oct. 9, 1916	.....	2,000.00	2,000.00
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 18, 1916	.....	1,000.00	1,000.00
							33,000.00

\$448,000.00

Section No. 1-A

**SOUTHERN BOULEVARD AND WESTCHESTER AVENUE RAPID TRANSIT RAILROAD — Continued**  
**XXI. CORPORATE STOCK — Concluded**

Route and Section	Issue of Stock					
	Date of sale	Interest rate	Maturity	Rate of issue	Date of premium	Amount issued
Routes No. 19 and 22, Section No. 2	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 9, 1916	.....	\$2,000 00
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	7,000 00
	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 9, 1916	.....	8,000 00
	Nov. 1, 1916	3½	April 2, 1917	Nov. 13, 1916	.....	15,000 00
	Nov. 1, 1916	3½	April 2, 1917	Nov. 22, 1916	.....	2,000 00
	Dec. 1, 1916	3½	Mar. 16, 1917	Dec. 11, 1916	.....	15,000 00
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Southern Boulevard and Westchester Avenue Rapid Transit Railroad from January 1, 1916, to December 31, 1916. ....						
						\$49,000 00
						\$535,000 00

# SOUTHERN BOULEVARD AND WESTCHESTER AVENUE RAPID TRANSIT RAILROAD DISBURSEMENTS

## XXII. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplementa; thereto for the construction of the Southern Boulevard and Westchester Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount city funds	Amount I. R. T. Co. funds	Total
R. 19 and 22, Sec. 1	33.....	Dec. 31, 1916	As stated on page 63 of the minutes of the Public Service Commission.				
	34.....	Jan. 31, 1916	As stated on page 269 of said minutes.	Richard Carvel Co., Inc., Assignee.	\$45,439 94	.....	
	35.....	Feb. 29, 1916	As stated on page 431 of said minutes.	Richard Carvel Co., Inc., Assignee.	35,686 68	.....	
	36.....	Mar. 31, 1916	As stated on page 594 of said minutes.	Richard Carvel Co., Inc., Assignee.	32,613 44	.....	
	37.....	Apr. 30, 1916	As stated on page 747 of said minutes.	Richard Carvel Co., Inc., Assignee.	19,819 03	.....	
	38.....	May 31, 1916	As stated on page 980 of said minutes.	Richard Carvel Co., Inc., Assignee.	24,979 66	.....	
	39.....	June 30, 1916	As stated on page 1131 of said minutes.	Richard Carvel Co., Inc., Assignee.	53,832 03	.....	
	40.....	July 31, 1916	As stated on page 1362 of said minutes.	Richard Carvel Co., Inc., Assignee.	46,348 81	.....	
	41.....	Aug. 31, 1916	As stated on page 1549 of said minutes.	Richard Carvel Co., Inc., Assignee.	43,637 98	.....	
	42.....	Sept. 30, 1916	As stated on page 1710 of said minutes.	Richard Carvel Co., Inc., Assignee.	40,528 54	.....	
	43.....	Oct. 31, 1916	As stated on page 1963 of said minutes.	Richard Carvel Co., Inc., Assignee.	31,030 27	.....	
	44.....	Nov. 30, 1916	As stated on page 2067 of said minutes.	Richard Carvel Co., Inc., Assignee.	39,587 26	.....	
		Dec. 31, 1916		Richard Carvel Co., Inc., Assignee.	37,572 48	.....	
					\$451,076 10		\$451,076 10
R. 19 and 22, Sec. 2	4 Supp.....	June 30, 1916	As stated on page 1832 of said minutes.	Richard Carvel Co., Inc., Assignee.	\$2,252 95	.....	2,252 95
	1.....	July 31, 1916	As stated on page 1468 of said minutes.	Flick & Mauvel Construction Co., Assignee.	\$1,153 83	\$285 46	
	2.....	Aug. 31, 1916	As stated on page 1549 of said minutes.	Flick & Mauvel Construction Co., Assignee.	6,830 66	1,707 67	
	3.....	Sept. 30, 1916	As stated on page 1675 of said minutes.	Flick & Mauvel Construction Co., Assignee.	7,968 65	1,992 16	
	4.....	Oct. 31, 1916	As stated on page 1863 of said minutes.	Flick & Mauvel Construction Co., Assignee.	14,326 31	3,581 57	
	5.....	Nov. 30, 1916	As stated on page 2027 of said minutes.	Flick & Mauvel Construction Co., Assignee.	14,822 33	3,705 59	
					\$45,101 77	\$11,275 45	\$56,377 22

## SOUTHERN BOULEVARD AND WESTCHESTER AVENUE RAPID TRANSIT RAILROAD—Concluded

## DISBURSEMENTS—Concluded

## XXII. CONTRACT CONSTRUCTION—Concluded

Route and Station	Requisition	To date	Payments authorized	To supplier	Amount city funds	Amount I. R. Co. funds	Total
R. 19 and 22 St. 2 (Cont'd)	1 Supp. ....	July 31, 1916	As stated on page 1468 of said minutes...	Wick & Munnell Construction Co., Assignee.	8325 50	\$306 40	
	2.....	Oct. 31, 1916	As stated on page 1888 of said minutes...	Wick & Munnell Construction Co., Assignee.	2,435 53	608 88	
R. 19 and 22 Sec. 1-A	30.....	Dec. 31, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	\$3,261 12	\$815 28	94,076 40
	31.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	88,893 90	\$45,080 24	
	32.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	37,746 49	
	33.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	39,778 74	
	34.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	38,989 44	
	35.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	33,523 64	
	36.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	41,257 79	
	37.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	34,446 77	
	38.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	30,970 19	
	39.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	31,540 84	
	40.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	31,212 33	
	41.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	19,415 66	
	42.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	7,064 89	
	43.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	371 89		
	44.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	\$18,745 11	\$356,187 60	374,932 71
	45.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71		
	46.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	4,124 79	
	47.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71		
	48.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	1,037 71	54,258 15	4,482 26
	49.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	\$18,840 00	\$858,000 00	967,000 00
	50.....	Jan. 1, 1916	As stated on page 64 of said minutes...	Rodgers & Hagerly, Inc.	\$334,011 16	\$626,186 48	

Total amount paid to various contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Southern Boulevard-Westchester Avenue Rapid Transit Railroad (Route 19 and 22), from January 1, 1916, to December 31, 1916.....

\$1,160,167 64

# RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3

## WHITE PLAINS ROAD LINE

### XXIII. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the White Plains Road Elevated Line.

Route and Section	Date of sale	Interest rate	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 18 Section No. 1	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	\$1,000 00	.....	\$1,000 00	\$22,000 00
	Feb. 24, 1916	2 1/2	April 24, 1916	Mar. 2, 1916	.....	2,000 00	.....	2,000 00	
	April 8, 1916	2 1/2	April 20, 1916	April 11, 1916	.....	1,000 00	.....	1,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	1,000 00	.....	1,000 00	
	May 20, 1916	3 1/2	Dec. 31, 1916	July 10, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 9, 1916	.....	2,000 00	.....	2,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	1,000 00	.....	1,000 00	
	Nov. 1, 1916	3 1/2	April 2, 1917	Nov. 22, 1916	.....	10,000 00	.....	10,000 00	
Route No. 18 Section No. 2	Nov. 15, 1915	2 1/2	Mar. 28, 1916	Jan. 11, 1916	.....	2,000 00	.....	2,000 00	41,781 62
	Jan. 2, 1916	2 1/2	Mar. 6, 1916	Jan. 24, 1916	.....	18,000 00	.....	18,000 00	
	Dec. 21, 1915	2 1/2	Mar. 6, 1916	Jan. 26, 1916	.....	4,000 00	.....	4,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	16,781 62	.....	16,781 62	
Route No. 18 Sections Nos. 1-3 Station finish.	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	16,000 00	.....	16,000 00	192,000 00
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	2,000 00	.....	2,000 00	
	Feb. 24, 1916	2 1/2	April 24, 1916	Mar. 2, 1916	.....	2,000 00	.....	2,000 00	
	April 8, 1916	2 1/2	April 20, 1916	Mar. 15, 1916	.....	11,000 00	.....	11,000 00	
	April 20, 1916	2 1/2	April 20, 1916	April 11, 1916	.....	26,000 00	.....	26,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 9, 1916	.....	8,000 00	.....	8,000 00	
	May 20, 1916	3 1/2	Dec. 31, 1916	June 14, 1916	.....	19,000 00	.....	19,000 00	
	May 20, 1916	3 1/2	Dec. 31, 1916	July 19, 1916	.....	11,000 00	.....	11,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	26,000 00	.....	26,000 00	
	Sept. 1, 1916	3 1/2	Dec. 31, 1916	Sept. 11, 1916	.....	11,000 00	.....	11,000 00	
	Oct. 1, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	23,000 00	.....	23,000 00	
	Oct. 15, 1916	3 1/2	April 2, 1917	Oct. 23, 1916	.....	14,000 00	.....	14,000 00	
	Nov. 1, 1916	3 1/2	April 2, 1917	Nov. 12, 1916	.....	18,000 00	.....	18,000 00	
	Nov. 28, 1916	3	June 30, 1917	Nov. 28, 1916	.....	2,000 00	.....	2,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 15, 1916	.....	16,000 00	.....	16,000 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the White Plains Road Line from January 1, 1916, to December 31, 1916.....									\$255,781 62

# WHITE PLAINS ROAD RAPID TRANSIT RAILROAD DISBURSEMENTS

## XXIV. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the White Plains Road Rapid Transit Railroad from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. Co. funds	Total
R. 18, Sec. 1.	21.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 64 of the minutes of the Public Service Commission.....			
	22.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 229 of said minutes.....	\$493 57	\$9,377 84	
	23.....	Feb. 29, 1916	Mar. 2, 1916	As stated on page 333 of said minutes.....	316 38	6,011 32	
	24.....	Mar. 31, 1916	Apr. 6, 1916	As stated on page 560 of said minutes.....	1,820 97	2,622 96	
	25.....	Apr. 30, 1916	May 11, 1916	As stated on page 748 of said minutes.....	1,560 84	29,658 36	
	26.....	May 31, 1916	June 9, 1916	As stated on page 938 of said minutes.....	1,046 26	19,578 97	
	27.....	June 30, 1916	July 13, 1916	As stated on page 1131 of said minutes.....	239 41	6,448 70	
	28.....	July 31, 1916	Aug. 11, 1916	As stated on page 1362 of said minutes.....	488 31	8,888 03	
	29.....	Aug. 31, 1916	Sept. 21, 1916	As stated on page 1596 of said minutes.....	557 73	10,598 94	
	30.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1709 of said minutes.....	2,281 27	1,345 86	
					\$8,084 09	\$94,729 88	\$102,823 97
R. 18, Sec. 2.	2, supplementary	Dec. 31, 1915	Feb. 17, 1916	As stated on page 271 of said minutes.....	\$194 70	\$3,999 31	
	3.....	June 1, 1916	Aug. 30, 1916	As stated on page 1466 of said minutes.....	124 06	2,356 83	
	4.....	Sept. 30, 1916	Nov. 16, 1916	As stated on page 1899 of said minutes.....	10,253 84		
	B.....	Jan. 31, 1916	Feb. 24, 1916	As stated on page 308 of said minutes.....	\$10,572 59	\$9,056 13	16,628 72
	C.....	Jan. 31, 1916	Feb. 24, 1916	As stated on page 308 of said minutes.....	\$2,000 00	\$39,000 00	
					1,560 00	28,500 00	
					\$3,500 00	\$66,500 00	
					\$4,664 94		70,000 00
							4,664 94
							\$77,162 33
					\$94,040 46	\$207,239 50	\$371,279 96

Total amount paid to various contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the White Plains Rapid Transit Railroad from January 1, 1916, to December 31, 1916.

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3**  
**STEINWAY TUNNEL LINE**  
**XXV. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Steinway Tunnel Line.

Route and Section	Date of sale	Interest rate	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 26	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	\$26,594 29	.....	\$26,594 29	\$26,594 29
Route No. 50	Feb. 18, 1916	2½	April 18, 1916	Mar. 2, 1916	.....	26,000 00	.....	26,000 00	26,000 00
	Mar. 9, 1916	2½	May 22, 1916	Mar. 23, 1916	.....	2,000 00	.....	2,000 00	2,000 00
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	2,000 00	.....	2,000 00	2,000 00
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	1,000 00	.....	1,000 00	1,000 00
	May 20, 1916	3	Dec. 31, 1916	June 1, 1916	.....	2,000 00	.....	2,000 00	2,000 00
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	7,000 00	.....	7,000 00	7,000 00
	May 30, 1916	3	Dec. 31, 1916	July 1, 1916	.....	1,000 00	.....	1,000 00	1,000 00
	May 31, 1916	3	Dec. 31, 1916	July 2, 1916	.....	10,000 00	.....	10,000 00	10,000 00
	Nov. 1, 1916	3½	April 16, 1917	Nov. 24, 1916	.....	7,000 00	.....	7,000 00	7,000 00
	Nov. 28, 1916	3	June 30, 1917	Nov. 28, 1916	.....	3,000 00	.....	3,000 00	3,000 00
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 18, 1916	.....	.....	.....	.....	.....
	Feb. 18, 1916	2½	April 18, 1916	Mar. 2, 1916	.....	1,795 85	.....	1,795 85	61,000 00
	Feb. 24, 1916	2½	April 24, 1916	Mar. 2, 1916	.....	3,204 15	.....	3,204 15	5,000 00
Routes Nos. 36 and 37 Section No. 1	Dec. 21, 1915	2½	Mar. 6, 1916	Jan. 26, 1916	.....	23,000 00	.....	\$23,000 00	\$23,000 00
	*Mar. 21, 1916	3	May 26, 1916	Feb. 28, 1916	.....	\$25,858 15	.....	\$25,858 15	345,558 15
	*Mar. 27, 1916	3	July 1, 1916	Mar. 13, 1916	.....	44,720 84	.....	44,720 84	44,720 84
	Feb. 24, 1916	2½	April 24, 1916	Mar. 13, 1916	.....	44,000 00	.....	44,000 00	44,000 00
	Mar. 24, 1916	2½	May 25, 1916	April 3, 1916	.....	50,000 00	.....	50,000 00	50,000 00
	April 6, 1916	2½	April 26, 1916	April 19, 1916	.....	30,000 00	.....	30,000 00	30,000 00
	May 5, 1916	3	Dec. 31, 1916	May 17, 1916	.....	1,000 00	.....	1,000 00	1,000 00
	May 20, 1916	3	Dec. 31, 1916	June 21, 1916	.....	5,000 00	.....	5,000 00	5,000 00
	May 23, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,632 64	.....	2,632 64	2,632 64
	June 23, 1916	3	Dec. 31, 1916	July 27, 1916	.....	7,387 86	.....	7,387 86	7,387 86
	July 21, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	8,000 00	.....	8,000 00	8,000 00
	July 21, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	.....	.....	.....	.....

\* February 28, 1916. Allotments of prior dates were reappportioned to Contract No. 4 and refunded by notes issued as shown.

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3 — Continued**  
**STEINWAY TUNNEL LINE — Concluded**  
**XXV. CORPORATE STOCK — Concluded**

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	Issue of Stock				Total.
				Date of issue	Rate of premium	Amount issued	Amount of premium	
Routes Nos. 36 and 37 Section No. 1 — Continued	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	\$0,000 00	.....	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	5,000 00	.....	\$5,000 00
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 16, 1916	.....	5,000 00	.....	5,000 00
	Oct. 18, 1916	3	April 16, 1917	Oct. 23, 1916	.....	2,000 00	.....	2,000 00
	Nov. 1, 1916	3	April 2, 1917	Nov. 22, 1916	.....	2,000 00	.....	2,000 00
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 13, 1916	.....	1,000 00	.....	1,000 00
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 26, 1916	.....	14,000 00	.....	14,000 00
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 16, 1916	.....	\$165,087 89	.....	\$165,087 89
	Oct. 6, 1916	3	.....	Aug. 30, 1916	.....	1,379 24	.....	1,379 24
	Oct. 6, 1916	3	.....	.....	.....	1,046 08	.....	1,046 08
Routes Nos. 36 and 37 Section No. 2.	Dec. 21, 1916	3	Mar. 6, 1916	Jan. 26, 1916	.....	\$0,000 00	.....	\$0,000 00
Routes Nos. 36 and 37 Section No. 2.	Dec. 24, 1916	3	Mar. 6, 1916	Feb. 9, 1916	.....	1,000 00	.....	1,000 00
	Feb. 10, 1916	3	July 1, 1916	Feb. 13, 1916	.....	3,000 00	.....	3,000 00
	Mar. 24, 1916	3	May 25, 1916	April 3, 1916	.....	5,000 00	.....	5,000 00
	April 6, 1916	3	April 30, 1916	April 19, 1916	.....	8,000 00	.....	8,000 00
	May 1, 1916	3	Dec. 31, 1916	May 6, 1916	.....	7,000 00	.....	7,000 00
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	3,000 00	.....	3,000 00
	May 20, 1916	3	Dec. 31, 1916	May 26, 1916	.....	2,000 00	.....	2,000 00
	May 26, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,000 00	.....	2,000 00
	May 26, 1916	3	Dec. 31, 1916	June 28, 1916	.....	1,000 00	.....	1,000 00
	May 20, 1916	3	Dec. 31, 1916	July 19, 1916	.....	1,000 00	.....	1,000 00
Routes Nos. 26 and 50 "R. Duct Line in 44th street	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	1,000 00	.....	1,000 00
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 9, 1916	.....	14,000 00	.....	14,000 00
	Jan. 6, 1916	3	Mar. 6, 1916	Jan. 19, 1916	.....	\$2,000 00	.....	\$2,000 00
	Feb. 18, 1916	3	April 18, 1916	Feb. 24, 1916	.....	2,000 00	.....	2,000 00
	Mar. 9, 1916	3	May 26, 1916	Mar. 23, 1916	.....	2,000 00	.....	2,000 00
	April 8, 1916	3	April 30, 1916	April 19, 1916	.....	1,421 25	.....	1,421 25
	.....	3	Rescinded	Aug. 1, 1916	.....	416 62	.....	416 62
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	7,000 00	.....	7,000 00
	Nov. 1, 1916	3	April 2, 1917	Nov. 23, 1916	.....	8,000 00	.....	8,000 00
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 13, 1916	.....	6,000 00	.....	6,000 00
								49,000 00
								\$5,168 84
								334 16
								\$7,004 63
								21,000 00

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Route No. 26 changes at Grand Central Sta.	Dec. 6, 1916	31	Mar. 12, 1917	Dec. 18, 1916	8,000 00	8,000 00	8,000 00
Routes Nos. 84-37 Section No. 2 Station finish	Jan. 5, 1916 Feb. 24, 1916 Mar. 1, 1916 Apr. 8, 1916 May 20, 1916 June 30, 1916 July 31, 1916 Aug. 16, 1916 Sept. 1, 1916 Oct. 1, 1916 Nov. 8, 1916 Dec. 6, 1916	31 31 31 31 31 31 31 31 31 31 31 31	Mar. 8, 1916 Apr. 1, 1916 May 2, 1916 June 2, 1916 July 2, 1916 Aug. 2, 1916 Sept. 2, 1916 Oct. 2, 1916 Nov. 2, 1916 Dec. 2, 1916 Jan. 2, 1917 Mar. 12, 1917	Jan. 19, 1916 Feb. 1, 1916 Mar. 1, 1916 Apr. 1, 1916 May 1, 1916 June 1, 1916 July 1, 1916 Aug. 1, 1916 Sept. 1, 1916 Oct. 1, 1916 Nov. 1, 1916 Dec. 1, 1916	18,000 00 12,000 00 17,000 00 11,000 00 16,000 00 10,000 00 20,000 00 2,000 00 11,000 00 19,000 00 14,000 00 10,000 00 9,000 00	8,000 00	8,000 00
Routes Nos. 38-37 Sections 1-3 Station finish	Nov. 15, 1915 Feb. 10, 1916 Mar. 24, 1916 Apr. 8, 1916 May 1, 1916 June 24, 1916 July 21, 1916 Sept. 4, 1916 Oct. 6, 1916 Nov. 1, 1916 Dec. 1, 1916	28 28 28 28 28 28 28 28 28 28 28	Mar. 26, 1916 July 1, 1916 Apr. 24, 1916 May 25, 1916 June 31, 1916 July 31, 1916 Aug. 31, 1916 Sept. 31, 1916 Oct. 31, 1916 Nov. 31, 1916 Dec. 31, 1916	Jan. 11, 1916 Feb. 11, 1916 Mar. 11, 1916 Apr. 11, 1916 May 11, 1916 June 11, 1916 July 11, 1916 Aug. 11, 1916 Sept. 11, 1916 Oct. 11, 1916 Nov. 11, 1916 Dec. 11, 1916	8,000 00 12,000 00 16,000 00 1,000 00 15,000 00 24,000 00 16,000 00 24,000 00 22,000 00 4,000 00 6,501 27 37,000 00	171,000 00	171,000 00
Route No. 50 Runts Point Avenue Station finish	Feb. 18, 1916 May 1, 1916 May 29, 1916 May 30, 1916 Aug. 1, 1916 Sept. 19, 1916 Oct. 8, 1916 Nov. 1, 1916 Dec. 6, 1916	28 28 28 28 28 28 28 28 28	Apr. 18, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916 Dec. 31, 1916	Feb. 24, 1916 May 17, 1916 June 19, 1916 July 21, 1916 Aug. 21, 1916 Sept. 19, 1916 Oct. 23, 1916 Nov. 23, 1916 Dec. 18, 1916	22,999 99 2,000 00 4,000 00 4,000 00 4,000 00 4,000 00 4,000 00 4,000 00 1,000 00	267,000 00	267,000 00
Total amount of proceeds from sale of corporate stock and corporate stock notes available for construction of Skidway Tunnel Line, from January 1, 1916, to December 31, 1916.....							\$477,835 78

# RAPID TRANSIT CONSTRUCTION FUND — QUEENS-ASTORIA, WOODSIDE AND CORONA RAPID TRANSIT RAILROAD DISBURSEMENTS

## XXVI. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts for the construction of the Queens-Astoria, Woodside and Corona Rapid Transit Railroad from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 36 and 37 Sec. 1	21*.....	Dec 31, 1915	As stated on page 120 of the minutes of the Public Service Commission.....	The Snares & Triest Co.....	\$22,557 96	
	22.....	Jan. 31, 1916	As stated on page 332 of said minutes.....	The Snares & Triest Co.....	35,085 40	
	23.....	Feb. 29, 1916	As stated on page 480 of said minutes.....	The Snares & Triest Co.....	12,548 15	
	24.....	Mar. 31, 1916	As stated on page 595 of said minutes.....	The Snares & Triest Co.....	29,788 31	
	25.....	Apr. 30, 1916	As stated on page 747 of said minutes.....	The Snares & Triest Co.....	7,675 60	
	26.....	May 31, 1916	As stated on page 980 of said minutes.....	The Snares & Triest Co.....	4,304 02	
	27.....	June 30, 1916	As stated on page 1173 of said minutes.....	The Snares & Triest Co.....	8,452 09	
	28.....	July 31, 1916	As stated on page 1362 of said minutes.....	The Snares & Triest Co.....	6,210 40	
	29.....	Aug 31, 1916	As stated on page 1546 of said minutes.....	The Snares & Triest Co.....	4,714 50	
	30.....	Sept 31, 1916	As stated on page 1708 of said minutes.....	The Snares & Triest Co.....	6,141 56	
	31.....	Oct. 31, 1916	As stated on page 1898 of said minutes.....	The Snares & Triest Co.....	2,526 88	
	32.....	Nov. 30, 1916	As stated on page 2057 of said minutes.....	The Snares & Triest Co.....	1,557 88	
	•.....	.....	.....	.....	\$141,563 45	141,563 45
	10, supplemental.	.....	Readjustment, portion chargeable to Contract No. 4.....	.....	.....	890,087 89
	11.....	Jan. 31, 1916	As stated on page 351 of said minutes.....	The Snares & Triest Co.....	\$238 02	
	12.....	Mar. 31, 1916	As stated on page 670 of said minutes.....	The Snares & Triest Co.....	718 22	
	13.....	Apr. 30, 1916	As stated on page 747 of said minutes.....	The Snares & Triest Co.....	4,026 77	
	14.....	May 31, 1916	As stated on page 1072 of said minutes.....	The Snares & Triest Co.....	3,875 42	
	15.....	June 30, 1916	As stated on page 1128 of said minutes.....	The Snares & Triest Co.....	7,552 04	
	16.....	July 31, 1916	As stated on page 1422 of said minutes.....	The Snares & Triest Co.....	640 70	
	17.....	Sept 30, 1916	As stated on page 1754 of said minutes.....	The Snares & Triest Co.....	1,424 04	
	18.....	Oct. 31, 1916	As stated on page 2058 of said minutes.....	The Snares & Triest Co.....	5,288 47	
	19.....	Nov. 30, 1916	As stated on page 2119 of said minutes.....	The Snares & Triest Co.....	13,575 24	
	2-R.....	Dec 31, 1915	As stated on page 352 of said minutes.....	The Snares & Triest Co.....	\$44,000 00	37,940 31
						44,000 00

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R. 36 and 37, Sec. 3	Special.....	.....	Oct. 11, 1916	As stated on page 1709 of said minutes.....	Cooper & Evans Co.....	\$1,379 24	\$1,379 24
31.....	Dec. 31, 1915	Jan. 31, 1916	As stated on page 120 of said minutes.....	E. E. Smith Contracting Co.....		\$5,975 97	
32.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 230 of said minutes.....	E. E. Smith Contracting Co.....		2,749 77	
33.....	Feb. 29, 1916	Mar. 28, 1916	As stated on page 389 of said minutes.....	E. E. Smith Contracting Co.....		5,086 99	
34.....	Mar. 31, 1916	Apr. 11, 1916	As stated on page 576 of said minutes.....	E. E. Smith Contracting Co.....		1,989 39	
35.....	Apr. 30, 1916	May 11, 1916	As stated on page 771 of said minutes.....	E. E. Smith Contracting Co.....		3,302 43	
36.....	May 31, 1916	June 15, 1916	As stated on page 970 of said minutes.....	E. E. Smith Contracting Co.....		2,236 24	
37.....	Aug. 31, 1916	Sept. 31, 1916	As stated on page 1246 of said minutes.....	E. E. Smith Contracting Co.....		12,791 87	
21-R.....	Dec. 31, 1915	Jan. 27, 1916	As stated on page 183 of said minutes.....	E. E. Smith Contracting Co.....		\$1,000 00	34,098 63
22-R.....	Feb. 29, 1916	Mar. 28, 1916	As stated on page 480 of said minutes.....	E. E. Smith Contracting Co.....		1,000 00	
23-R.....	Apr. 30, 1916	May 13, 1916	As stated on page 778 of said minutes.....	E. E. Smith Contracting Co.....		1,000 00	
24-R.....	May 31, 1916	June 22, 1916	As stated on page 1023 of said minutes.....	E. E. Smith Contracting Co.....		1,000 00	
25-R.....	Aug. 31, 1916	Sept. 28, 1916	As stated on page 1623 of said minutes.....	E. E. Smith Contracting Co.....		1,000 00	5,000 00
12, supplemental	June 30, 1915	April 12, 1916	As stated on page 695 of said minutes.....	E. E. Smith Contracting Co.....		\$576 50	
13.....	July 31, 1915	April 27, 1916	As stated on page 670 of said minutes.....	E. E. Smith Contracting Co.....		1,155 40	
14.....	Aug. 31, 1915	April 27, 1916	As stated on page 670 of said minutes.....	E. E. Smith Contracting Co.....		6,168 29	
15.....	Sept. 30, 1915	June 22, 1916	As stated on page 1023 of said minutes.....	E. E. Smith Contracting Co.....		610 06	
16.....	Oct. 31, 1915	July 13, 1916	As stated on page 1133 of said minutes.....	E. E. Smith Contracting Co.....		746 91	
17.....	Nov. 30, 1915	July 20, 1916	As stated on page 1174 of said minutes.....	E. E. Smith Contracting Co.....		507 07	
18.....	Dec. 31, 1915	Aug. 16, 1916	As stated on page 1373 of said minutes.....	E. E. Smith Contracting Co.....		323 47	10,167 70
1.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 63 of said minutes.....	Murphy Bros.....		\$1,529 41	
2.....	Jan. 31, 1916	Feb. 17, 1916	As stated on page 270 of said minutes.....	Murphy Bros.....		1,800 83	
3.....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 431 of said minutes.....	Murphy Bros.....		1,948 06	
4.....	Mar. 31, 1916	April 12, 1916	As stated on page 596 of said minutes.....	Murphy Bros.....		879 97	
Final.....	.....	June 8, 1916	As stated on page 933 of said minutes.....	Murphy Bros.....		846 37	7,004 63
Construction of storm drain 26 and 37 Sec. 3							\$108,933 43

Total amount paid to the various contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Queens-Astoria & Corona Rapid Transit Railroad from January 1, 1916, to December 31, 1916.....

\* The payments heretofore charged to Contract No. 3 are repositioned as follows: Estimates Nos. 1 to 21, 1-R, 2-R, and supplemental 1 to 9, inclusive. Portion chargeable to Contract No. 3, \$476,773.38; portion chargeable to Contract No. 4, \$390,067.29; total, \$866,840.67.

**STEINWAY TUNNEL RAPID TRANSIT RAILROAD (ROUTES 26 AND 50)**  
**DISBURSEMENTS**

**XXVII. CONTRACT CONSTRUCTION**

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to various contractors for work done and materials furnished under the provision of the different contracts and the agreements amendatory thereof and supplemental thereto for the reconstruction of the Steinway Tunnel Rapid Transit Railroad from the Borough of Manhattan to the Borough of Queens, from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 26.....	Final.....	June 12, 1916	As stated on page 1277 of the minutes of the Public Service Commission.....	Rapid Transit Subway Construction Co.....	\$26,049 09	\$26,049 02
R. 26 and 50, Railroad duct line	1..... 2..... 3.....	Aug. 31, 1916 Oct. 31, 1916 Nov. 30, 1916	As stated on page 1543 of said minutes.... As stated on page 1866 of said minutes.... As stated on page 2057 of said minutes....	Beaver Engineering & Contracting Co..... Beaver Engineering & Contracting Co..... Beaver Engineering & Contracting Co.....	\$6,990 19 8,970 18 8,674 36	20,274 63
Total amount paid to the contractor for work done and materials furnished under the contracts and agreements amendatory thereof and supplemental thereto for the reconstruction of the Steinway Tunnel Rapid Transit Railroad from the Borough of Manhattan to the Borough of Queens, from January 1, 1916, to December 31, 1916.....						\$46,323 64

# STEINWAY TUNNEL RAPID TRANSIT RAILROAD (ROUTE 50 — QUEENSBORO PLAZA EXTENSION) DISBURSEMENTS

## XXVIII. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorised under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Queensboro Plaza Extension of the Steinway Tunnel Rapid Transit Railroad from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorised	To contractor	Amount	Total
R. 50.....	21.....	Nov. 20, 1915	As stated on page 308 of the minutes of the Public Service Commission.....	The Depon Contracting Co.,.....	\$15,080 17	
	22.....	Dec. 31, 1915	As stated on page 206 of said minutes.....	The Depon Contracting Co.,.....	6,835 64	
	23.....	Jan. 31, 1916	As stated on page 206 of said minutes.....	The Depon Contracting Co.,.....	4,199 59	
	24.....	Feb. 29, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	1,974 66	
	25.....	Mar. 31, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	1,858 50	
	26.....	Apr. 30, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	1,062 00	
	27.....	May 31, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	6,887 59	
	28.....	June 30, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	7,737 43	
	29.....	July 31, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	49 03	
	30.....	Aug. 31, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	4,040 97	
	31.....	Sept. 30, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	2,600 00	
	32.....	Oct. 31, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	4,040 97	
	33.....	Nov. 30, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	9,823 80	
	34.....	Dec. 31, 1916	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	7,374 89	
	35.....	Jan. 31, 1917	As stated on page 431 of said minutes.....	The Depon Contracting Co.,.....	2,940 43	\$96,976 85
Total amount paid to the contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Queensboro Plaza Extension of the Steinway Tunnel Rapid Transit Railroad Co., from January 1, to December 31, 1916.....						\$96,976 85

**LEXINGTON AVENUE LINE — FORTY-SECOND STREET CONNECTION (ROUTES 43 AND 26)**  
**DISBURSEMENTS**

**XXIX. CONTRACT CONSTRUCTION**

Statement showing the requisition made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the connection at 42nd Street with the present Manhattan-Bronx Rapid Transit Railroad, from January 1, 1915, to December 31, 1915.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	City funds	I. R. T. Co. funds	Total
R. 43-26, Sec. 1	13. ....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 82 of the minutes of the Public Service Commission.....	Rapid Transit Subway Construction Co.....	\$33,346 96	\$33,346 96
	14. ....	Jan. 31, 1916	Feb. 17, 1916	As stated on page 271 of said minutes.....	Rapid Transit Subway Construction Co.....	28,057 88	28,057 88
	15. ....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 432 of said minutes.....	Rapid Transit Subway Construction Co.....	30,728 31	30,728 31
	16. ....	Mar. 31, 1916	April 13, 1916	As stated on page 596 of said minutes.....	Rapid Transit Subway Construction Co.....	24,311 02	24,311 02
	17. ....	April 30, 1916	May 18, 1916	As stated on page 764 of said minutes.....	Rapid Transit Subway Construction Co.....	13,415 82	13,415 82
	18. ....	May 31, 1916	June 15, 1916	As stated on page 978 of said minutes.....	Rapid Transit Subway Construction Co.....	53,956 19	53,956 19
	19. ....	June 30, 1916	July 13, 1916	As stated on page 1123 of said minutes.....	Rapid Transit Subway Construction Co.....	43,506 20	43,506 20
	20. ....	July 31, 1916	Aug. 16, 1916	As stated on page 1373 of said minutes.....	Rapid Transit Subway Construction Co.....	32,151 67	32,151 68
	21. ....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1540 of said minutes.....	Rapid Transit Subway Construction Co.....	42,313 93	42,313 93
	22. ....	Sept. 30, 1916	Oct. 19, 1916	As stated on page 1742 of said minutes.....	Rapid Transit Subway Construction Co.....	28,531 08	28,531 08
	23. ....	Oct. 31, 1916	Nov. 22, 1916	As stated on page 1944 of said minutes.....	Rapid Transit Subway Construction Co.....	28,751 21	28,751 22
	24. ....	Nov. 30, 1916	Dec. 20, 1916	As stated on page 2118 of said minutes.....	Rapid Transit Subway Construction Co.....	25,068 56	25,068 56
	Special. ....	.....	Sept. 28, 1916	As stated on page 1028 of said minutes.....	Rapid Transit Subway Construction Co.....	25,000 00	25,000 00
						\$400,138 81	\$400,138 81
							\$793,277 68

4-R.....	Dec. 31, 1915	Jan. 20, 1916	As stated on page 120 of said minutes.....	Rapid Transit Subway Construction Co.....	\$14,396 76	\$14,396 77
5.....	Jan. 31, 1916	Mar. 2, 1916	As stated on page 362 of said minutes.....	Rapid Transit Subway Construction Co.....	3,000 00	3,000 00
6.....	Feb. 29, 1916	Mar. 28, 1916	As stated on page 481 of said minutes.....	Rapid Transit Subway Construction Co.....	3,500 00	3,500 00
7.....	Mar. 31, 1916	April 20, 1916	As stated on page 635 of said minutes.....	Rapid Transit Subway Construction Co.....	2,500 00	2,500 00
8.....	April 30, 1916	May 18, 1916	As stated on page 765 of said minutes.....	Rapid Transit Subway Construction Co.....	1,500 00	1,500 00
9.....	May 31, 1916	June 22, 1916	As stated on page 1022 of said minutes.....	Rapid Transit Subway Construction Co.....	6,000 00	6,000 00
10.....	June 30, 1916	July 27, 1916	As stated on page 1227 of said minutes.....	Rapid Transit Subway Construction Co.....	5,000 00	5,000 00
11.....	July 31, 1916	Aug. 23, 1916	As stated on page 1422 of said minutes.....	Rapid Transit Subway Construction Co.....	4,500 00	4,500 00
12.....	Aug. 31, 1916	Sept. 28, 1916	As stated on page 1628 of said minutes.....	Rapid Transit Subway Construction Co.....	4,500 00	4,500 00
13.....	Sept. 30, 1916	Nov. 1, 1916	As stated on page 1832 of said minutes.....	Rapid Transit Subway Construction Co.....	3,500 00	3,500 00
14.....	Oct. 31, 1916	Nov. 29, 1916	As stated on page 1993 of said minutes.....	Rapid Transit Subway Construction Co.....	3,000 00	3,000 00
					\$51,396 76	\$51,396 77
4, Supp.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 62 of said minutes.....	Rapid Transit Subway Construction Co.....	\$288 15	\$288 15
5.....	June 30, 1916	July 20, 1916	As stated on page 1172 of said minutes.....	Rapid Transit Subway Construction Co.....	9,059 86	9,059 86
6.....	Aug. 31, 1916	Oct. 11, 1916	As stated on page 1707 of said minutes.....	Rapid Transit Subway Construction Co.....	1,014 79	1,014 80
					\$10,962 80	\$10,962 81
					\$41,458 57	\$41,458 45
						21,925 61
						102,793 33
						\$917,996 83

R. 43-26  
Sec. 1

Total amount paid the contractor for work done and materials furnished under the contract for the construction of the 42d street connection with the present Manhattan-Bronx Rapid Transit Railroad and the Lexington Avenue Line, from January 1, 1916, to December 31, 1916.....

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 3

## EASTERN PARKWAY LINE

## XXX. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Eastern Parkway Subway.

ROUTE AND SECTION	Date of sale	Interest rate %	Maturity	Issues of Stock				Amount of proceeds credited	Total
				Date of issue	Rate of premium	Amount issued	Amount of premium		
Route No. 12 Section No. 1	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$18,000 00	.....	\$18,000 00	
	Dec. 24, 1915	2½	Mar. 6, 1916	Feb. 9, 1916	.....	8,000 00	.....	3,000 00	
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	17,000 00	.....	17,000 00	
	Feb. 16, 1916	2½	April 18, 1916	Mar. 2, 1916	.....	3,000 00	.....	3,000 00	
	Feb. 24, 1916	2½	April 24, 1916	Mar. 22, 1916	.....	8,000 00	.....	8,000 00	
	Apr. 8, 1916	2½	April 20, 1916	April 19, 1916	.....	13,000 00	.....	13,000 00	
	May 1, 1916	2½	Dec. 31, 1916	.....	.....	4,000 00	.....	4,000 00	
	May 1, 1916	2	July 31, 1916	May 6, 1916	.....	.....	.....	.....	
	May 27, 1916	2	Dec. 31, 1916	May 17, 1916	.....	21,000 00	.....	21,000 00	
	May 29, 1916	2	Dec. 31, 1916	May 24, 1916	.....	3,000 00	.....	3,000 00	
	May 29, 1916	2	Dec. 31, 1916	May 24, 1916	.....	19,000 00	.....	19,000 00	
	May 29, 1916	2	Dec. 31, 1916	June 14, 1916	.....	4,000 00	.....	4,000 00	
	May 29, 1916	2	Dec. 31, 1916	June 21, 1916	.....	4,000 00	.....	4,000 00	
	May 29, 1916	2	Dec. 31, 1916	July 12, 1916	.....	8,000 00	.....	8,000 00	
	May 29, 1916	2	Dec. 31, 1916	July 19, 1916	.....	18,000 00	.....	18,000 00	
	May 29, 1916	2	Dec. 31, 1916	July 27, 1916	.....	4,000 00	.....	4,000 00	
	July 31, 1916	2	Dec. 31, 1916	.....	.....	23,000 00	.....	23,000 00	
	Aug. 16, 1916	2	Dec. 31, 1916	Aug. 17, 1916	.....	4,000 00	.....	4,000 00	
	Sept. 1, 1916	2	Dec. 31, 1916	Sept. 2, 1916	.....	24,000 00	.....	24,000 00	
	Sept. 1, 1916	2	Dec. 31, 1916	Sept. 11, 1916	.....	24,000 00	.....	24,000 00	
	Sept. 1, 1916	2	Dec. 31, 1916	Sept. 12, 1916	.....	15,000 00	.....	15,000 00	
	Oct. 6, 1916	2½	Feb. 9, 1917	Oct. 9, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 6, 1916	2½	Feb. 9, 1917	Oct. 16, 1916	.....	4,000 00	.....	4,000 00	
	Nov. 1, 1916	2½	Apr. 1, 1917	Oct. 23, 1916	.....	4,000 00	.....	4,000 00	
	Nov. 1, 1916	2½	Apr. 1, 1917	Nov. 13, 1916	.....	24,000 00	.....	24,000 00	
	Dec. 1, 1916	2½	Apr. 18, 1917	Nov. 22, 1916	.....	4,000 00	.....	4,000 00	
	Dec. 6, 1916	2½	Mar. 12, 1917	Dec. 11, 1916	.....	23,000 00	.....	23,000 00	
	Dec. 6, 1916	2½	.....	Dec. 18, 1916	.....	4,000 00	.....	4,000 00	

\$270,000 00

# AUDITOR'S REPORT

89

451,000 00

32,000 00

Route No. 12 Section No. 1A	5, 1916	Jan. 5, 1916	Mar. 6, 1916	Jan. 10, 1916	.....	\$49,000 00	.....	\$49,000 00
	10, 1916	Feb. 10, 1916	July 1, 1916	Feb. 11, 1916	.....	5,000 00	.....	5,000 00
	15, 1916	Feb. 15, 1916	July 1, 1916	Feb. 15, 1916	.....	40,000 00	.....	40,000 00
	18, 1916	Feb. 18, 1916	July 1, 1916	Feb. 18, 1916	.....	4,000 00	.....	4,000 00
	24, 1916	Feb. 24, 1916	April 24, 1916	Mar. 22, 1916	.....	26,000 00	.....	26,000 00
	28, 1916	Mar. 2, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	37,000 00	.....	37,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	18,000 00	.....	18,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	35,000 00	.....	35,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	39,000 00	.....	39,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	28,000 00	.....	28,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	46,000 00	.....	46,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	6,000 00	.....	6,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	86,000 00	.....	86,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	25,000 00	.....	25,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	2,000 00	.....	2,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	23,000 00	.....	23,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	1,000 00	.....	1,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	2,000 00	.....	2,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	2,000 00	.....	2,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	4,000 00	.....	4,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	3,000 00	.....	3,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	47,000 00	.....	47,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	47,000 00	.....	47,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	1,000 00	.....	1,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	38,000 00	.....	38,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	23,000 00	.....	23,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	16,000 00	.....	16,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	34,000 00	.....	34,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	88,000 00	.....	88,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	47,000 00	.....	47,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	47,000 00	.....	47,000 00
	1, 1916	Mar. 1, 1916	May 25, 1916	April 2, 1916	.....	51,000 00	.....	51,000 00

Route No. 12  
Section No. 2

Route No. 12  
Section No. 3

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3 — Concluded**  
**EASTERN PARKWAY LINE — Concluded**  
**XXX. CORPORATE STOCK — Concluded**

Route and Section	Date of sale	Interest rate %	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 12 Section No. 3 — <i>Cont'd</i>	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 16, 1916	.....	\$44,000 00	.....	\$44,000 00	\$604,000 00
	Nov. 1, 1916	3½	April 2, 1917	Nov. 13, 1916	.....	60,000 00	.....	60,000 00	
	Dec. 1, 1916	3½	Mar. 15, 1917	Dec. 11, 1916	.....	61,000 00	.....	61,000 00	
	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	1,000 00	.....	\$1,000 00	
Route No. 20 Section No. 1	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	1,000 00	.....	1,000 00	25,000 00
	Feb. 24, 1916	2½	April 24, 1916	Mar. 22, 1916	.....	1,000 00	.....	1,000 00	
	April 6, 1916	2½	April 20, 1916	April 19, 1916	.....	1,000 00	.....	1,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	1,000 00	.....	1,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,000 00	.....	2,000 00	
	May 20, 1916	3	Dec. 31, 1916	July 19, 1916	.....	2,000 00	.....	2,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	4,000 00	.....	4,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	3,000 00	.....	3,000 00	
	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 16, 1916	.....	3,000 00	.....	3,000 00	
	Nov. 1, 1916	3½	April 2, 1917	Nov. 22, 1916	.....	3,000 00	.....	3,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 18, 1916	.....	3,000 00	.....	3,000 00	
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	2,000 00	.....	\$2,000 00	
Route No. 20 Section No. 2	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	3,000 00	.....	3,000 00	32,000 00
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	1,000 00	.....	1,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	3,000 00	.....	3,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 28, 1916	.....	1,000 00	.....	1,000 00	
	May 20, 1916	3	Dec. 31, 1916	July 19, 1916	.....	4,000 00	.....	4,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	1,000 00	.....	1,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	5,000 00	.....	5,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 25, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 16, 1916	.....	3,000 00	.....	3,000 00	
	Nov. 1, 1916	3½	April 2, 1917	Nov. 13, 1916	.....	4,000 00	.....	4,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 18, 1916	.....	4,000 00	.....	4,000 00	
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	2,000 00	.....	\$2,000 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Eastern Parkway Line, from January 1, 1916, to December 31, 1916. ....									\$1,414,000 00

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4**  
**EASTERN PARKWAY LINE (Flatbush Avenue Route)**

**XXXI. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Flatbush Avenue Line.

Route and Section	Date of sale	Interest rate %	Maturity	Issues of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 12 Section No. 1	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	\$18,000 00	.....	\$18,000 00	\$270,000 00
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Feb. 9, 1916	.....	3,000 00	.....	3,000 00	
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Feb. 15, 1916	.....	18,000 00	.....	18,000 00	
	Jan. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 2, 1916	.....	8,000 00	.....	8,000 00	
	Mar. 13, 1916	2 1/2	June 23, 1916	Mar. 22, 1916	.....	8,000 00	.....	8,000 00	
	Mar. 13, 1916	2 1/2	June 23, 1916	Apr. 19, 1916	.....	13,000 00	.....	13,000 00	
	Apr. 8, 1916	3	Dec. 31, 1916	Apr. 19, 1916	.....	4,000 00	.....	4,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 9, 1916	.....	21,000 00	.....	21,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	3,000 00	.....	3,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 25, 1916	.....	19,000 00	.....	19,000 00	
	May 23, 1916	3	Dec. 31, 1916	June 1, 1916	.....	4,000 00	.....	4,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 12, 1916	.....	5,000 00	.....	5,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 19, 1916	.....	18,000 00	.....	18,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	4,000 00	.....	4,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	22,000 00	.....	22,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	Aug. 7, 1916	.....	4,000 00	.....	4,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 16, 1916	.....	4,064 64	.....	4,064 64	
	Sept. 12, 1916	3	Dec. 31, 1916	Sept. 16, 1916	.....	23,935 34	.....	23,935 34	
	Oct. 6, 1916	3 1/2	Feb. 8, 1917	Oct. 6, 1916	.....	10,000 00	.....	10,000 00	
	Oct. 6, 1916	3 1/2	Feb. 8, 1917	Oct. 23, 1916	.....	4,000 00	.....	4,000 00	
	Oct. 13, 1916	3 1/2	Apr. 16, 1917	Nov. 13, 1916	.....	24,000 00	.....	24,000 00	
	Nov. 23, 1916	3	June 30, 1917	Nov. 23, 1916	.....	4,000 00	.....	4,000 00	
	Dec. 1, 1916	3 1/2	Mar. 16, 1917	Dec. 1, 1916	.....	23,000 00	.....	23,000 00	
	Dec. 1, 1916	3 1/2	Mar. 16, 1917	Dec. 15, 1916	.....	4,000 00	.....	4,000 00	

RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4 — *Concluded*EASTERN PARKWAY LINE (Flatbush Avenue Route) — *Concluded*XXXI. CORPORATE STOCK — *Concluded*

Route and Section	Date of sale	Interest rate %	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 12 Section No. 1A	Dec. 24, 1915	3 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	\$23,000 00	.....	\$23,000 00	
	Jan. 5, 1916	3 1/2	Mar. 6, 1916	Feb. 9, 1916	.....	4,000 00	.....	4,000 00	
	Jan. 5, 1916	3 1/2	Mar. 6, 1916	Feb. 15, 1916	.....	27,000 00	.....	20,000 00	
	Feb. 28, 1916	3 1/2	Apr. 28, 1916	Mar. 2, 1916	.....	2,000 00	.....	2,000 00	
	Feb. 28, 1916	3 1/2	Apr. 28, 1916	Mar. 22, 1916	.....	13,000 00	.....	13,000 00	
	Mar. 27, 1916	3 1/2	July 1, 1916	April 3, 1916	.....	3,000 00	.....	3,000 00	
	Mar. 27, 1916	3 1/2	July 1, 1916	April 19, 1916	.....	18,000 00	.....	18,000 00	
	Apr. 1, 1916	3 1/2	Dec. 31, 1916	April 19, 1916	.....	18,000 00	.....	18,000 00	
	Apr. 1, 1916	3 1/2	Dec. 31, 1916	May 9, 1916	.....	2,000 00	.....	2,000 00	
	Apr. 1, 1916	3 1/2	Dec. 31, 1916	May 17, 1916	.....	9,020 03	.....	9,020 03	
	May 20, 1916	3 1/2	Dec. 31, 1916	May 25, 1916	.....	1,000 00	.....	1,000 00	
	May 20, 1916	3 1/2	Dec. 31, 1916	June 14, 1916	.....	18,000 00	.....	18,000 00	
	May 20, 1916	3 1/2	Dec. 31, 1916	June 14, 1916	.....	2,000 00	.....	2,000 00	
	June 23, 1916	3 1/2	Dec. 31, 1916	July 19, 1916	.....	14,000 00	.....	14,000 00	
	June 23, 1916	3 1/2	Dec. 31, 1916	July 27, 1916	.....	2,000 00	.....	2,000 00	
	Aug. 1, 1916	3 1/2	Dec. 31, 1916	Aug. 17, 1916	.....	14,000 00	.....	14,000 00	
	Aug. 1, 1916	3 1/2	Dec. 31, 1916	Aug. 17, 1916	.....	1,000 00	.....	1,000 00	
Route No. 12 Section No. 1B Route No. 12 Section No. 2-A	Sept. 1, 1916	3 1/2	Dec. 31, 1916	Sept. 2, 1916	.....	26,000 00	.....	26,000 00	
	Sept. 1, 1916	3 1/2	Dec. 31, 1916	Sept. 19, 1916	.....	19,000 00	.....	19,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	2,000 00	.....	2,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 23, 1916	.....	2,000 00	.....	2,000 00	
	Oct. 13, 1916	3 1/2	April 16, 1917	Nov. 13, 1916	.....	18,000 00	.....	18,000 00	
	Oct. 13, 1916	3 1/2	April 2, 1917	Nov. 22, 1916	.....	1,000 00	.....	1,000 00	
	Nov. 28, 1916	3 1/2	June 30, 1917	Dec. 11, 1916	.....	11,000 00	.....	11,000 00	
	Nov. 28, 1916	3 1/2	June 30, 1917	Dec. 11, 1916	.....	2,000 00	.....	2,000 00	
	Nov. 28, 1916	3 1/2	June 30, 1917	Dec. 11, 1916	.....	4,000 00	.....	4,000 00	
	Nov. 28, 1916	3 1/2	June 30, 1917	Dec. 11, 1916	.....	5,000 00	.....	5,000 00	
	Nov. 28, 1916	3 1/2	Dec. 31, 1916	July 19, 1916	.....	7,000 00	.....	7,000 00	
	Nov. 28, 1916	3 1/2	Dec. 31, 1916	Aug. 17, 1916	.....	14,000 00	.....	14,000 00	
	Nov. 28, 1916	3 1/2	Dec. 31, 1916	Sept. 19, 1916	.....	20,000 00	.....	20,000 00	
	Nov. 28, 1916	3 1/2	Dec. 31, 1916	Oct. 9, 1916	.....	13,000 00	.....	13,000 00	
	Nov. 28, 1916	3 1/2	April 16, 1917	Nov. 13, 1916	.....	10,000 00	.....	10,000 00	
	Nov. 28, 1916	3 1/2	June 30, 1917	Nov. 22, 1916	.....	23,000 00	.....	23,000 00	
	Nov. 28, 1916	3 1/2	June 30, 1917	Dec. 11, 1916	.....	23,000 00	.....	23,000 00	
									\$225,020 03
									4,000 00
									\$229,020 03
									92,000 00
									\$501,020 03

Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Flatbush Avenue Line from January 1, 1916, to December 31, 1916.

# EASTERN PARKWAY RAPID TRANSIT RAILROAD DISBURSEMENTS

## XXVII. CONTRACTS OF CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Eastern Parkway Rapid Transit Railroad from January 1, 1916, to December 31, 1916.

ROUTING AND SECTION	Requisition	To date	Payments authorized	To contractor	Contract No. 2	Contract No. 4	Total
R. 12, Sec. 1	17	Dec. 31, 1915	As stated on page 63 of the minutes of the Public Service Commission	Crawford Company	\$17,915 54	\$17,915 57	
	18	Jan. 18, 1916	As stated on page 63 of the minutes of the Public Service Commission	Crawford Company	17,997 47	17,997 48	
	19	Feb. 10, 1916	As stated on page 229 of said minutes	Crawford Company	8,680 59	8,680 59	
	20	Mar. 18, 1916	As stated on page 430 of said minutes	Crawford Company	12,720 38	12,720 38	
	21	Apr. 11, 1916	As stated on page 594 of said minutes	Crawford Company	30,804 09	30,804 09	
	22	May 11, 1916	As stated on page 747 of said minutes	Crawford Company	18,703 34	18,703 34	
	23	June 8, 1916	As stated on page 933 of said minutes	Crawford Company	18,703 34	18,703 34	
	24	July 12, 1916	As stated on page 1131 of said minutes	Crawford Company	18,907 03	18,907 01	
	25	Aug. 11, 1916	As stated on page 1340 of said minutes	Crawford Company	23,810 53	23,810 53	
	26	Sept. 8, 1916	As stated on page 1504 of said minutes	Crawford Company	23,929 07	23,929 07	
	27	Oct. 31, 1916	As stated on page 1675 of said minutes	Crawford Company	16,156 97	16,156 97	
	28	Nov. 9, 1916	As stated on page 1863 of said minutes	Crawford Company	24,359 55	24,359 55	
	29	Nov. 30, 1916	As stated on page 2027 of said minutes	Crawford Company	24,410 60	24,410 60	
					\$225,539 87	\$225,539 88	\$451,065 75
	10-R	Dec. 31, 1915	As stated on page 166 of said minutes	Crawford Company	\$3,000 00	\$3,000 00	
	11	Jan. 31, 1916	As stated on page 308 of said minutes	Crawford Company	3,000 00	3,000 00	
	12	Apr. 27, 1916	As stated on page 670 of said minutes	Crawford Company	4,000 00	4,000 00	
	13	May 15, 1916	As stated on page 796 of said minutes	Crawford Company	3,000 00	3,000 00	
	14	June 15, 1916	As stated on page 920 of said minutes	Crawford Company	4,000 00	4,000 00	
	15	June 30, 1916	As stated on page 1173 of said minutes	Crawford Company	4,000 00	4,000 00	
	16	July 30, 1916	As stated on page 1464 of said minutes	Crawford Company	4,000 00	4,000 00	
	17	Aug. 31, 1916	As stated on page 1518 of said minutes	Crawford Company	4,000 00	4,000 00	
	18	Sept. 30, 1916	As stated on page 1743 of said minutes	Crawford Company	3,000 00	3,000 00	
	19	Oct. 31, 1916	As stated on page 1868 of said minutes	Crawford Company	4,000 00	4,000 00	
	20	Nov. 30, 1916	As stated on page 2060 of said minutes	Crawford Company	4,000 00	4,000 00	
					40,000 00	40,000 00	80,000 00

## EASTERN PARKWAY RAPID TRANSIT RAILROAD — Concluded

## DISBURSEMENTS — Concluded

## XXXII. CONTRACT CONSTRUCTION — Concluded

Rolls AND SECTION	Requisition	To date	Payments authorized	To contractor	Contract No. 3	Contract No. 4	Total
R. 12, Sec. 1 —Cont'd	1 Supp.....	May 18, 1916	As stated on page 1080 of the minutes of the Public Service Commission	Cranford Company.....	\$4,901 71	\$4,901 71	
	2 .....	Oct. 10, 1916	As stated on page 1743 of said minutes	Cranford Company.....	226 61	226 61	
R. 12, Sec. 1-A	18 .....	Dec. 31, 1915	As stated on page 64 of said minutes	Cranford Company.....	\$5,128 32	\$5,128 32	\$10,256 04
	19 .....	Jan. 31, 1916	As stated on page 229 of said minutes	Cranford Company.....	\$46,378 11	\$23,180 06	
	20 .....	Feb. 29, 1916	As stated on page 431 of said minutes	Cranford Company.....	38,378 91	19,189 45	
	21 .....	Mar. 31, 1916	As stated on page 594 of said minutes	Cranford Company.....	26,023 97	13,011 48	
	22 .....	Apr. 30, 1916	As stated on page 747 of said minutes	Cranford Company.....	36,863 21	18,431 10	
	23 .....	May 31, 1916	As stated on page 938 of said minutes	Cranford Company.....	17,638 41	8,819 20	
	24 .....	June 30, 1916	As stated on page 1130 of said minutes	Cranford Company.....	35,465 37	17,732 68	
	25 .....	July 31, 1916	As stated on page 1361 of said minutes	Cranford Company.....	38,613 33	14,306 66	
	26 .....	Aug. 31, 1916	As stated on page 1513 of said minutes	Cranford Company.....	27,623 87	13,811 93	
	27 .....	Sept. 30, 1916	As stated on page 1737 of said minutes	Cranford Company.....	46,449 22	23,224 60	
	28 .....	Oct. 31, 1916	As stated on page 1863 of said minutes	Cranford Company.....	33,040 43	19,020 21	
	29 .....	Nov. 30, 1916	As stated on page 2027 of said minutes	Cranford Company.....	24,717 76	17,348 87	
	30 .....	Dec. 31, 1916	As stated on page 2027 of said minutes	Cranford Company.....	23,276 04	11,638 02	
	10-R.....	Dec. 31, 1915	As stated on page 198 of said minutes	Cranford Company.....	\$399,466 62	\$199,733 26	\$99,199 88
	11 .....	Jan. 31, 1916	As stated on page 308 of said minutes	Cranford Company.....	\$8,000 00	\$4,000 00	
	12 .....	Feb. 29, 1916	As stated on page 490 of said minutes	Cranford Company.....	6,000 00	3,000 00	
	13 .....	Mar. 31, 1916	As stated on page 670 of said minutes	Cranford Company.....	4,000 00	2,000 00	
	14 .....	Apr. 30, 1916	As stated on page 796 of said minutes	Cranford Company.....	2,000 00	1,000 00	
	15 .....	May 31, 1916	As stated on page 980 of said minutes	Cranford Company.....	4,000 00	2,000 00	
	16 .....	June 30, 1916	As stated on page 1173 of said minutes	Cranford Company.....	4,000 00	2,000 00	
	17 .....	July 31, 1916	As stated on page 1467 of said minutes	Cranford Company.....	2,000 00	1,000 00	
	18 .....	Aug. 31, 1916	As stated on page 1546 of said minutes	Cranford Company.....	6,000 00	3,000 00	
	19 .....	Sept. 30, 1916	As stated on page 1743 of said minutes	Cranford Company.....	4,000 00	2,000 00	
	20 .....	Oct. 31, 1916	As stated on page 1898 of said minutes	Cranford Company.....	4,000 00	2,000 00	
	21 .....	Nov. 30, 1916	As stated on page 2060 of said minutes	Cranford Company.....	4,000 00	2,000 00	
				Cranford Company.....	\$52,000 00	\$26,000 00	\$78,000 00

R. 12, Sec. 2-A	2 Supp. ....	June 30, 1916	July 13, 1916	As stated on page 1181 of said minutes...	Cranford Company .....	\$56 53	\$28 27	183 02
	3 Supp. ....	Oct. 10, 1916	Oct. 16, 1916	As stated on page 1743 of said minutes...	Cranford Company .....	64 83	32 40	
R. 12, Sec. 1-B	1. ....	June 30, 1916	July 13, 1916	As stated on page 1130 of said minutes...	Degnon Contracting Company .....	\$121 35	\$60 57	91,605 01
	2. ....	July 31, 1916	Aug. 11, 1916	As stated on page 1361 of said minutes...	Degnon Contracting Company .....	.....	\$4,621 87	
	3. ....	Aug. 31, 1916	Sept. 8, 1916	As stated on page 1513 of said minutes...	Degnon Contracting Company .....	.....	6,612 15	
	4. ....	Sept. 30, 1916	Oct. 6, 1916	As stated on page 1665 of said minutes...	Degnon Contracting Company .....	.....	14,601 30	
	5. ....	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1863 of said minutes...	Degnon Contracting Company .....	.....	19,324 41	
	6. ....	Nov. 30, 1916	Dec. 6, 1916	As stated on page 2027 of said minutes...	Degnon Contracting Company .....	.....	13,030 90	
					Degnon Contracting Company .....	.....	23,394 38	
						.....	\$81,605 01	
	1-B. ....	Oct. 31, 1916	Nov. 22, 1916	As stated on page 1944 of said minutes...	Degnon Contracting Co. ....	.....	\$10,000 00	
						.....	\$3,192 18	
R. 12, Sec. 1-B	1. ....	Oct. 19, 1916	Dec. 6, 1916	As stated on page 2027 of said minutes...	Degnon Contracting Co. ....	.....	\$3,192 18	3,192 18
						.....		
Total amount paid the contractor for work done and materials furnished under the several contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Eastern Parkway Line (portion of Route 12, Sec. 1, 1a, 1b, 2a) from January 1, 1916, to December 31, 1916, .....						722,249.16	\$591,252 32	\$1,313,501 48

## EASTERN PARKWAY RAPID TRANSIT RAILROAD (EASTERN PARKWAY, ST. JOHNS PLACE TO NOSTRAND AVENUE)

## DISBURSEMENTS (Route 12, Sec. 2)

XXXII. CONTRACT CONSTRUCTION — *Concluded*

Route AND SECTION	Requisition	To date	Payments authorised	To contractor	City funds	I. R. T. Co. funds	Total
R. 12, Sec. 2	6.....	Dec. 30, 1915	As stated on page 64 of the minutes of the Public Service Commission				
	7.....	Jan. 13, 1916	As stated on page 240 of said minutes	Inter-Continental Construction Co.	\$1,314 16	\$24,969 03	
	8.....	Feb. 10, 1916	As stated on page 431 of said minutes	Inter-Continental Construction Co.	1,933 71	36,778 52	
	9.....	Mar. 16, 1916	As stated on page 595 of said minutes	Inter-Continental Construction Co.	1,186 89	22,773 83	
	10.....	Apr. 13, 1916	As stated on page 741 of said minutes	Inter-Continental Construction Co.	774 05	14,707 00	
	11.....	May 11, 1916	As stated on page 980 of said minutes	Inter-Continental Construction Co.	962 13	18,280 51	
	12.....	June 15, 1916	As stated on page 1132 of said minutes	Inter-Continental Construction Co.	1,917 72	36,436 66	
	13.....	July 13, 1916	As stated on page 1371 of said minutes	Inter-Continental Construction Co.	2,753 09	52,308 72	
	14.....	Aug. 16, 1916	As stated on page 1547 of said minutes	Inter-Continental Construction Co.	2,396 53	45,535 50	
	15.....	Sept. 14, 1916	As stated on page 1708 of said minutes	Inter-Continental Construction Co.	3,790 65	72,022 38	
	16.....	Oct. 11, 1916	As stated on page 1899 of said minutes	Inter-Continental Construction Co.	4,541 44	86,267 35	
	17.....	Nov. 15, 1916	As stated on page 2068 of said minutes	Inter-Continental Construction Co.	3,513 85	96,763 13	
		Dec. 30, 1916			2,969 16	56,414 01	
					\$98,047 48	\$433,928 13	\$581,349 61
	3-R.....	Jan. 31, 1916	As stated on page 309 of said minutes	Inter-Continental Construction Co.	\$500 00	\$9,500 00	
	4.....	Feb. 29, 1916	As stated on page 427 of said minutes	Inter-Continental Construction Co.	1,250 80	23,750 00	
	5.....	Mar. 30, 1916	As stated on page 1766 of said minutes	Inter-Continental Construction Co.	2,100 00	\$5,900 00	
R. 12, Sec. 3	1 Supp.....	June 30, 1916	As stated on page 1277 of said minutes	Inter-Continental Construction Co.	\$3,850 00	\$73,150 00	\$7,000 00
	2.....	Sept. 30, 1916	As stated on page 1745 of said minutes	Inter-Continental Construction Co.	\$133 32	\$2,433 16	
					70 34	1,336 44	
					\$203 64	\$3,869 80	
	3.....	Dec. 31, 1916	As stated on page 64 of said minutes	Rodgers & Hagerly, Inc.	\$49,015 75	\$2,499 25	
	4.....	Jan. 31, 1917	As stated on page 239 of said minutes	Rodgers & Hagerly, Inc.	41,826 44	2,400 14	
	5.....	Feb. 29, 1917	As stated on page 431 of said minutes	Rodgers & Hagerly, Inc.	31,250 55	1,500 14	
	6.....	Mar. 31, 1917	As stated on page 594 of said minutes	Rodgers & Hagerly, Inc.	10,527 94	569 68	
	7.....	Apr. 30, 1917	As stated on page 748 of said minutes	Rodgers & Hagerly, Inc.	84,080 87	1,569 03	
	8.....	May 31, 1917	As stated on page 978 of said minutes	Rodgers & Hagerly, Inc.	68,366 66	2,402 63	
	9.....	June 30, 1917	As stated on page 1102 of said minutes	Rodgers & Hagerly, Inc.	46,720 48	2,486 86	

8.....	July 31, 1916	Aug. 16, 1916	As stated on page 1378 of said minutes...	Rodgers & Hagerly, Inc.....	47,949 77	2,807 88
9.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1547 of said minutes...	Rodgers & Hagerly, Inc.....	51,707 45	2,721 45
10.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1708 of said minutes...	Rodgers & Hagerly, Inc.....	43,428 16	2,885 00
11.....	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1894 of said minutes...	Rodgers & Hagerly, Inc.....	50,777 61	3,146 10
12.....	Nov. 30, 1916	Dec. 6, 1916	As stated on page 2027 of said minutes...	Rodgers & Hagerly, Inc.....	61,176 36	3,216 96
					\$259,969 16	\$89,456 29
1-R.....	Feb. 29, 1916	Mar. 23, 1916	As stated on page 480 of said minutes...	Rodgers & Hagerly, Inc.....	\$22,800 00	\$1,200 00
2.....	May 31, 1916	June 15, 1916	As stated on page 681 of said minutes...	Rodgers & Hagerly, Inc.....	20,800 00	1,100 00
					\$43,700 00	\$2,800 00
						46,000 00
					\$638,490 39	\$942,058 08
						\$1,277,548 31

Total amount paid the contractors for work done and materials furnished under the several contracts and the agreements supplementary thereof and supplemental thereto for the construction of the Eastern Parkway Rapid Transit Railroad (Route 12, Sec. 2 and 3), from January 1, 1916, to December 31, 1916,.....

## EASTERN PARKWAY RAPID TRANSIT RAILROAD (NOSTRAND AVENUE ROUTE)

## DISBURSEMENTS

## XXXIII. CONTRACT CONSTRUCTION

Route and Section	Requisition	To date	Payments authorized	To contractor	City funds	L. R. T. Co. funds	Total
R. 29, Sec. 1.	3.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 63 of the minutes of the Public Service Commission.....	Newman & Cary Subway Construction Co.....	\$697 15	\$12,245 81
	4.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 230 of said minutes.....	Newman & Cary Subway Construction Co.....	893 31	16,972 53
	5.....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 432 of said minutes.....	Newman & Cary Subway Construction Co.....	918 32	17,448 04
	6.....	Mar. 31, 1916	April 13, 1916	As stated on page 594 of said minutes.....	Newman & Cary Subway Construction Co.....	853 57	16,193 73
	7.....	April 30, 1916	May 11, 1916	As stated on page 745 of said minutes.....	Newman & Cary Subway Construction Co.....	745 92	14,172 63
	8.....	May 31, 1916	June 15, 1916	As stated on page 978 of said minutes.....	Newman & Cary Subway Construction Co.....	2,098 13	30,364 44
	9.....	June 30, 1916	July 12, 1916	As stated on page 1123 of said minutes.....	Newman & Cary Subway Construction Co.....	2,645 56	50,265 65
	10.....	July 31, 1916	Aug. 16, 1916	As stated on page 1373 of said minutes.....	Newman & Cary Subway Construction Co.....	3,153 35	56,913 73
	11.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1549 of said minutes.....	Newman & Cary Subway Construction Co.....	3,450 35	65,556 58
	12.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1709 of said minutes.....	Newman & Cary Subway Construction Co.....	2,906 97	55,232 55
	13.....	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1900 of said minutes.....	Newman & Cary Subway Construction Co.....	2,919 84	55,477 06
	14.....	Nov. 30, 1916	Dec. 12, 1916	As stated on page 2058 of said minutes.....	Newman & Cary Subway Construction Co.....	3,275 05	63,225 99
						\$24,556 52	\$406,574 03
	1, supplementary	Feb. 29, 1916	Mar. 28, 1916	As stated on page 451 of said minutes.....	Newman & Cary Subway Construction Co.....	\$179 77	\$3,415 73
	2.....	Aug. 31, 1916	Sept. 21, 1916	As stated on page 1598 of said minutes.....	Newman & Cary Subway Construction Co.....	19 97	379 53
						\$199 74	\$3,795 26
							\$401,130 55
							3,995 00

## AUDITOR'S REPORT

99

R.	29,	Ses. 2.
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1.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 279 of said minutes....	Dock Contractor Co.....	\$1,088 57	\$20,644 92
2.....	Feb. 29, 1916	Mar. 16, 1916	As stated on page 431 of said minutes....	Dock Contractor Co.....	1,889 40	16,869 89
3.....	Mar. 31, 1916	April 13, 1916	As stated on page 594 of said minutes....	Dock Contractor Co.....	1,051 88	31,385 85
4.....	Apr. 30, 1916	May 11, 1916	As stated on page 748 of said minutes....	Dock Contractor Co.....	1,282 53	24,568 87
5.....	May 31, 1916	June 15, 1916	As stated on page 960 of said minutes....	Dock Contractor Co.....	8,315 10	62,986 91
6.....	June 30, 1916	July 13, 1916	As stated on page 1132 of said minutes....	Dock Contractor Co.....	3,790 92	71,267 82
7.....	Jul. 31, 1916	Sept. 8, 1916	As stated on page 1513 of said minutes....	Dock Contractor Co.....	2,868 33	45,568 30
8.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1548 of said minutes....	Dock Contractor Co.....	3,031 39	57,596 47
9.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1769 of said minutes....	Dock Contractor Co.....	2,963 38	56,286 29
10.....	Oct. 31, 1916	Nov. 1, 1916	As stated on page 1894 of said minutes....	Dock Contractor Co.....	3,099 17	58,884 19
11.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2058 of said minutes....	Dock Contractor Co.....	3,959 36	75,227 88
					\$27,437 11	\$521,305 77
1-R.....	Mar. 31, 1916	April 13, 1916	As stated on page 598 of said minutes....	Dock Contractor Co.....	\$640 00	\$12,100 00
2.....	" "	June 22, 1916	As stated on page 1072 of said minutes....	Dock Contractor Co.....	755 00	15,105 00
3.....	May 31, 1916	July 20, 1916	As stated on page 1174 of said minutes....	Dock Contractor Co.....	746 00	12,255 00
4.....	June 30, 1916	August 10, 1916	As stated on page 1563 of said minutes....	Dock Contractor Co.....	940 00	18,060 00
5.....	Aug. 31, 1916	Sept. 21, 1916	As stated on page 1792 of said minutes....	Dock Contractor Co.....	580 00	10,450 00
6.....	Sept. 30, 1916	Oct. 19, 1916	As stated on page 1900 of said minutes....	Dock Contractor Co.....	580 00	10,450 00
	Oct. 31, 1916	Nov. 16, 1916			\$4,130 00	\$78,470 00
						\$2,900 00
						\$1,126,468 43

\*Total amount paid the various contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Eastern Parkway Line (Notroad Avenue Route No. 26), from January 1, 1916, to December 31, 1916.

Total amount paid the various contractors for work done and materials furnished under the different contracts and the agreements ancillary thereto and supplements thereto for the construction of the Eastern Parkway Line (Northland Avenue Route No. 29), from January 1, 1916, to December 31, 1918.....

## RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK

## CONTRACT NO. 3

## DISBURSEMENTS

## XXXIV. STATION FINISH

Statement showing the requisition made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished in the completion and finish of certain stations on various lines under the provisions of Contract No. 3, and the agreements amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

Rolls AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 36-7, 80 Secs. 1-3	2.....	Dec. 15, 1915	Jan. 6, 1916	As stated on page 31 of the minutes of the Public Service Commission.....		
	3.....	Jan. 15, 1916	Feb. 2, 1916	As stated on page 193 of said minutes.....	\$16,106 68	
	4.....	Feb. 15, 1916	Mar. 2, 1916	As stated on page 851 of said minutes.....	12,628 47	
	5.....	Mar. 15, 1916	Mar. 30, 1916	As stated on page 508 of said minutes.....	22,881 02	
	6.....	Apr. 15, 1916	May 4, 1916	As stated on page 711 of said minutes.....	15,676 76	
	7.....	May 15, 1916	May 25, 1916	As stated on page 849 of said minutes.....	15,259 02	
	8.....	June 15, 1916	June 29, 1916	As stated on page 1046 of said minutes.....	22,075 86	
	9.....	July 15, 1916	July 27, 1916	As stated on page 1128 of said minutes.....	15,896 68	
	10.....	Aug. 15, 1916	Aug. 20, 1916	As stated on page 1463 of said minutes.....	23,792 46	
	11.....	Sept. 15, 1916	Sept. 28, 1916	As stated on page 1638 of said minutes.....	26,898 25	
	12.....	Oct. 15, 1916	Nov. 1, 1916	As stated on page 1832 of said minutes.....	21,865 76	
		Nov. 15, 1916	Dec. 6, 1916	As stated on page 2027 of said minutes.....	25,656 87	
R. 36-37 Sec. No. 2 Station finish	1, supplementary.	Jan. 15, 1916	April 6, 1916	As stated on page 540 of said minutes.....	\$252,595 83	
	2.....	April 15, 1916	May 25, 1916	As stated on page 850 of said minutes.....	81,046 18	
	3.....	May 15, 1916	June 29, 1916	As stated on page 1022 of said minutes.....	1,127 54	
	4.....	June 15, 1916	Oct. 26, 1916	As stated on page 1783 of said minutes.....	6,713 95	
	5.....	Oct. 15, 1916	Dec. 6, 1916	As stated on page 2027 of said minutes.....	4,371 73	
					2,763 86	
					\$15,023 26	
	3.....	Dec. 31, 1915	Jan. 12, 1916	As stated on page 63 of said minutes.....	\$15,737 39	
	4.....	Jan. 31, 1916	Feb. 10, 1916	As stated on page 230 of said minutes.....	16,549 09	
	5.....	Feb. 29, 1916	Mar. 10, 1916	As stated on page 431 of said minutes.....	11,801 70	
		Mar. 31, 1916	April 13, 1916	As stated on page 596 of said minutes.....	14,750 85	
				Charles Meads & Co.....		\$267,618 09

R. 38-37 Sec. No. 2 Station finish —Cont'd	6..... 7..... 8..... 9..... 10..... 11..... 12..... 13..... 1. supplementary 2. supplementary 3..... 4.....	April 30, 1916 May 31, 1916 June 30, 1916 July 31, 1916 Aug. 31, 1916 Sept. 30, 1916 Oct. 31, 1916 Nov. 30, 1916 Dec. 31, 1915 Jan. 27, 1916 Feb. 20, 1916 July 30, 1916 Oct. 31, 1916 Nov. 30, 1916	May 18, 1916 June 15, 1916 July 13, 1916 Aug. 11, 1916 Sept. 14, 1916 Oct. 19, 1916 Nov. 16, 1916 Dec. 13, 1916 Jan. 27, 1916 Feb. 20, 1916 July 30, 1916 Oct. 31, 1916 Nov. 30, 1916	As stated on page 704 of said minutes As stated on page 979 of said minutes As stated on page 1138 of said minutes As stated on page 1362 of said minutes As stated on page 1369 of said minutes As stated on page 1741 of said minutes As stated on page 1598 of said minutes As stated on page 2038 of said minutes As stated on page 104 of said minutes As stated on page 1174 of said minutes As stated on page 1463 of said minutes As stated on page 1944 of said minutes	Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co. Charles Meeds & Co.	9,737 98 7,041 14 18,296 91 11,348 14 18,032 10 13,425 18 10,765 75 9,224 91 1,740 44 2,901 67 3,353 47 4,876 13
R. 50 Station finish	1 and F..... 1..... 2..... 3..... 4..... 5..... 6..... 7..... 8.....	Jan. 31, 1916 April 30, 1916 May 31, 1916 June 30, 1916 July 31, 1916 Aug. 16, 1916 Sept. 30, 1916 Oct. 19, 1916 Nov. 16, 1916 Dec. 13, 1916	Feb. 17, 1916 May 11, 1916 June 15, 1916 July 13, 1916 Aug. 16, 1916 Sept. 14, 1916 Oct. 19, 1916 Nov. 16, 1916 Dec. 13, 1916	As stated on page 270 of said minutes As stated on page 749 of said minutes As stated on page 931 of said minutes As stated on page 1123 of said minutes As stated on page 1372 of said minutes As stated on page 1549 of said minutes As stated on page 1741 of said minutes As stated on page 1899 of said minutes As stated on page 2056 of said minutes	Station Construction Co. Depron Contracting Co. Depron Contracting Co. Depron Contracting Co. Depron Contracting Co. Depron Contracting Co. Depron Contracting Co. Depron Contracting Co. Depron Contracting Co.	\$2,099 99 1,030 82 2,334 12 4,021 33 3,401 39 4,217 60 4,794 36 2,286 19 1,080 74
R. 26, Sec. 1 Station finish R. 16 Secs. 1 and 2 Station finish	1..... 2..... 3..... 4..... 5..... 6..... 7..... 8..... 9..... 10..... 11..... 12..... 13..... A..... B..... C.....	Nov. 30, 1916 Dec. 31, 1915 Jan. 31, 1916 Feb. 10, 1916 Mar. 9, 1916 Apr. 6, 1916 May 4, 1916 June 9, 1916 July 13, 1916 Aug. 11, 1916 Sept. 6, 1916 Oct. 11, 1916 Nov. 9, 1916 Dec. 13, 1916 Aug. 31, 1916 Sept. 30, 1916 Oct. 31, 1916	Dec. 13, 1916 Jan. 13, 1916 Feb. 10, 1916 Mar. 9, 1916 Apr. 6, 1916 May 4, 1916 June 9, 1916 July 13, 1916 Aug. 11, 1916 Sept. 6, 1916 Oct. 11, 1916 Nov. 9, 1916 Dec. 13, 1916	As stated on page 2057 of said minutes As stated on page 68 of said minutes As stated on page 223 of said minutes As stated on page 401 of said minutes As stated on page 560 of said minutes As stated on page 912 of said minutes As stated on page 937 of said minutes As stated on page 1131 of said minutes As stated on page 1360 of said minutes As stated on page 1504 of said minutes As stated on page 1708 of said minutes As stated on page 1864 of said minutes As stated on page 2056 of said minutes	Thomas J. Waters Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co. The Alcoria Realty & Construction Co.	\$29,206 54 \$7,433 86 \$9,140 72 9,118 07 8,404 60 19,437 53 16,004 92 18,402 64 16,473 91 31,656 89 36,993 54 20,392 99 20,869 09 10,569 53 \$217,414 78 \$19,052 73 2,292 56 9,313 79 \$23,634 06

171,032 39

\$29,206 54

7,433 86

241,048 88

**RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK — Concluded**  
**CONTRACT No. 3 — Concluded**  
**DISBURSEMENTS — Concluded**  
**XXXIV. STATION FINISH — Concluded**

Rows	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 18 Secs. 1 and 2 Station finish	2.....	Dec. 31, 1915	Jan. 13, 1916	The Altorria Realty & Construction Co.....	\$14,805 00	
	3.....	Jan. 31, 1916	Feb. 10, 1916	The Altorria Realty & Construction Co.....	4,954 97	
	4.....	Feb. 29, 1916	Mar. 9, 1916	The Altorria Realty & Construction Co.....	4,934 45	
	5.....	Mar. 31, 1916	Apr. 6, 1916	The Altorria Realty & Construction Co.....	11,467 58	
	6.....	Apr. 30, 1916	May 4, 1916	The Altorria Realty & Construction Co.....	25,500 80	
	7.....	May 31, 1916	June 9, 1916	The Altorria Realty & Construction Co.....	9,945 23	
	8.....	June 30, 1916	July 13, 1916	The Altorria Realty & Construction Co.....	11,917 21	
	9.....	July 31, 1916	Aug. 11, 1916	The Altorria Realty & Construction Co.....	10,358 15	
	10.....	Aug. 31, 1916	Sept. 6, 1916	The Altorria Realty & Construction Co.....	26,188 31	
	11.....	Sept. 30, 1916	Oct. 11, 1916	The Altorria Realty & Construction Co.....	22,735 14	
	12.....	Oct. 31, 1916	Nov. 9, 1916	The Altorria Realty & Construction Co.....	16,247 66	
	13.....	Nov. 30, 1916	Dec. 13, 1916	The Altorria Realty & Construction Co.....	14,265 85	
					\$173,327 15	
	A.....	Aug. 31, 1916	Oct. 19, 1916	The Altorria Realty & Construction Co.....	\$14,048 65	
	B.....	Sept. 30, 1916	Nov. 9, 1916	The Altorria Realty & Construction Co.....	2,526 12	
	C.....	Oct. 31, 1916	Nov. 22, 1916	The Altorria Realty & Construction Co.....	1,805 21	
					\$18,378 06	\$191,705 21
Total amount paid to the various contractors for work done and materials furnished in the completion and finish of certain stations on various lines under Contract No. 3 (contribution by city of New York), from January 1, 1916, to December 31, 1916.....						\$905,104 95

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3**  
**CORPORATE STOCK**

**XXXV. TRACK MATERIALS**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the purchase of track materials, pursuant to Contract No. 3.

				Issue of Stock			
Date of sale	Interest rate	Maturity	Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited
Dec. 24, 1915	2 1/2	Mar. 8, 1916	Feb. 1, 1916	.....	\$1,000 00	.....	\$1,000 00
Dec. 24, 1915	2 1/2	Mar. 8, 1916	Feb. 9, 1916	.....	5,000 00	.....	5,000 00
Feb. 18, 1916	2 1/2	Apr. 18, 1916	Feb. 24, 1916	.....	3,000 00	.....	3,000 00
Feb. 18, 1916	2 1/2	Apr. 18, 1916	Mar. 2, 1916	.....	10,000 00	.....	10,000 00
Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 16, 1916	.....	5,000 00	.....	5,000 00
Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 20, 1916	.....	17,000 00	.....	17,000 00
Mar. 24, 1916	2 1/2	May 25, 1916	Apr. 3, 1916	.....	32,000 00	.....	32,000 00
Mar. 24, 1916	2 1/2	May 25, 1916	May 1, 1916	.....	27,000 00	.....	27,000 00
May 1, 1916	3	Dec. 31, 1916	May 9, 1916	.....	7,000 00	.....	7,000 00
May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	68,000 00	.....	68,000 00
May 1, 1916	3	Dec. 31, 1916	May 25, 1916	.....	31,000 00	.....	31,000 00
May 20, 1916	3	Dec. 31, 1916	June 1, 1916	.....	35,000 00	.....	35,000 00
May 29, 1916	3	Dec. 31, 1916	June 26, 1916	.....	116,000 00	.....	116,000 00
June 23, 1916	3	Dec. 31, 1916	June 28, 1916	.....	8,000 00	.....	8,000 00
June 23, 1916	3	Dec. 31, 1916	July 19, 1916	.....	90,000 00	.....	90,000 00
July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	114,000 00	.....	114,000 00
Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	76,000 00	.....	76,000 00
Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	5,000 00	.....	5,000 00
Aug. 16, 1916	3	Dec. 31, 1916	Aug. 28, 1916	.....	53,000 00	.....	53,000 00
Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	130,000 00	.....	130,000 00
Oct. 6, 1916	3	Feb. 9, 1917	Oct. 9, 1916	.....	109,000 00	.....	109,000 00
Oct. 6, 1916	3	Feb. 9, 1917	Oct. 29, 1916	.....	142,000 00	.....	142,000 00
Oct. 18, 1916	3	Apr. 16, 1917	Oct. 25, 1916	.....	15,000 00	.....	15,000 00
Nov. 1, 1916	3	Apr. 16, 1917	Nov. 6, 1916	.....	46,191 73	.....	46,191 73
Nov. 1, 1916	3	Apr. 2, 1917	Nov. 23, 1916	.....	134,808 27	.....	134,808 27
Nov. 28, 1916	3	June 30, 1917	Nov. 28, 1916	.....	23,000 00	.....	23,000 00
Dec. 1, 1916	3	Mar. 15, 1917	Dec. 6, 1916	.....	13,191 73	.....	13,191 73
Dec. 6, 1916	3	Mar. 15, 1917	Dec. 18, 1916	.....	16,808 27	.....	16,808 27
Dec. 6, 1916	3	Mar. 12, 1917	Dec. 18, 1916	.....	8,000 00	.....	8,000 00
Dec. 6, 1916	3	Mar. 12, 1917	Dec. 26, 1916	.....		.....	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the purchase of track materials from January 1, 1916, to December 31, 1916.							\$1,346,000 00
							\$1,346,000 00

# RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3 CORPORATE STOCK

## XXXVI. TRACK INSTALLATION

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the installation of track, pursuant to Contract No. 3.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Track Installation Route No. 5 Sections 7-15	June 23, 1916	3	Dec. 31, 1916	June 28, 1916	.....	\$9,000 00	.....	\$9,000 00	\$86,000 00
	May 20, 1916	3	Dec. 31, 1916	July 19, 1916	.....	10,000 00	.....	10,000 00	
	May 20, 1916	3	Dec. 31, 1916	July 19, 1916	.....	1,000 00	.....	1,000 00	
	July 21, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	9,000 00	.....	9,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	11,000 00	.....	11,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	13,000 00	.....	13,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 16, 1916	.....	2,000 00	.....	2,000 00	
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 23, 1916	.....	1,000 00	.....	1,000 00	
	Nov. 1, 1916	3	April 16, 1917	Nov. 6, 1916	.....	12,000 00	.....	12,000 00	
	Nov. 1, 1916	3	April 16, 1917	Nov. 13, 1916	.....	16,000 00	.....	16,000 00	
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 18, 1916	.....	2,000 00	.....	2,000 00	
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 26, 1916	.....	.....	.....	.....	
Track Installation Route No. 18 Sections Nos. 1-2	May 20, 1916	3	Dec. 31, 1916	June 28, 1916	.....	1,000 00	.....	1,000 00	\$29,000 00
	May 20, 1916	3	Dec. 31, 1916	July 12, 1916	.....	3,000 00	.....	3,000 00	
	May 20, 1916	3	Dec. 31, 1916	July 12, 1916	.....	7,000 00	.....	7,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	5,000 00	.....	5,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 13, 1916	.....	3,000 00	.....	3,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 13, 1916	.....	3,000 00	.....	3,000 00	
	Oct. 1, 1916	3	Feb. 9, 1917	Oct. 16, 1916	.....	1,000 00	.....	1,000 00	
	Nov. 1, 1916	3	April 2, 1917	Nov. 26, 1916	.....	6,000 00	.....	6,000 00	
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 18, 1916	.....	.....	.....	.....	
	Jan. 5, 1916	3	Mar. 6, 1916	Jan. 19, 1916	.....	11,000 00	.....	11,000 00	
	Feb. 24, 1916	3	April 24, 1916	Mar. 2, 1916	.....	10,000 00	.....	10,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 1, 1916	.....	2,000 00	.....	2,000 00	
Track Installation Route Nos. 36-37, and 50	May 28, 1916	3	Dec. 31, 1916	May 17, 1916	.....	2,000 00	.....	2,000 00	\$99,000 00
	May 28, 1916	3	Dec. 31, 1916	June 21, 1916	.....	2,000 00	.....	2,000 00	
	May 28, 1916	3	Dec. 31, 1916	June 21, 1916	.....	7,000 00	.....	7,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	16,000 00	.....	16,000 00	
	Sept. 16, 1916	3	Dec. 31, 1916	Sept. 26, 1916	.....	10,336 24	.....	10,336 24	
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 23, 1916	.....	6,873 76	.....	6,873 76	
	Oct. 16, 1916	3	April 16, 1917	Oct. 23, 1916	.....	13,000 00	.....	13,000 00	
	Nov. 1, 1916	3	April 2, 1917	Nov. 22, 1916	.....	8,000 00	.....	8,000 00	
	Dec. 6, 1916	3	Mar. 12, 1917	Dec. 26, 1916	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the installation of track pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916,.....									\$214,000 00

# **RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3** **REAL ESTATE**

## **XXXVII. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the acquirement of real estate or interest therein in the construction of the Dual System of Rapid Transit Railroads under Contract No. 3.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Real Estate Contract No. 3	Nov. 15, 1915	2½	Mar. 28, 1916	Jan. 19, 1916	.....	\$21,133 63	.....	\$21,133 63	\$896,000 00
	Jan. 5, 1915	2½	Mar. 6, 1916	Jan. 19, 1916	.....	77,896 37	.....	77,896 37	
	Jan. 5, 1915	2½	Mar. 6, 1916	Jan. 21, 1916	.....	1,000 00	.....	1,000 00	
	Dec. 21, 1915	2½	Mar. 6, 1916	Feb. 1, 1916	.....	199,133 63	.....	199,133 63	
	Dec. 24, 1915	2½	Mar. 8, 1916	Feb. 1, 1916	.....	464,896 37	.....	464,896 37	
	Feb. 15, 1916	2½	Mar. 8, 1916	Feb. 21, 1916	.....	3,000 00	.....	3,000 00	
	Feb. 15, 1916	2½	April 17, 1916	Feb. 21, 1916	.....	4,000 00	.....	4,000 00	
	April 8, 1916	2½	April 20, 1916	April 17, 1916	.....	5,000 00	.....	5,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 9, 1916	.....	1,000 00	.....	1,000 00	
	May 20, 1916	3	Dec. 31, 1916	July 7, 1916	.....	10,000 00	.....	10,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	26,000 00	.....	26,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 28, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 23, 1916	.....	2,000 00	.....	2,000 00	
	Nov. 1, 1916	3½	April 16, 1917	Nov. 6, 1916	.....	50,000 00	.....	50,000 00	
	Dec. 1, 1916	3½	Mar. 12, 1917	Nov. 13, 1916	.....	1,000 00	.....	1,000 00	
	Dec. 1, 1916	3½	Mar. 15, 1917	Dec. 11, 1916	.....	3,000 00	.....	3,000 00	
	Dec. 1, 1916	3½	Mar. 15, 1917	Dec. 13, 1916	.....	.....	.....	.....	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the acquirement of real estate and interest therein in the construction of the Dual System of Rapid Transit Railroads under Contract No. 3, from January 1, 1916, to December 31, 1916.....									\$896,000 00

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3**  
**MAINTENANCE**

**XXXVIII. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the maintenance of the completed portions of the railroad, pursuant to Contract No. 3.

Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
			Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Nov. 1, 1916	3½	April 16, 1917	Nov. 6, 1916	.....	\$500 00	.....	\$500 00	\$500 00
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the maintenance of the completed portion of the railroad pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916 .....								
								\$500 00

# RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK CONTRACT No. 3

## XXXIX. DISBURSEMENTS — TRACK MATERIALS

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorised under the direction of the Public Service Commission to be made to the various contractors for the supply of track materials under the provisions of Contract No. 3, and the agreements amendatory thereof and supplemental thereto, for the construction of the railroad under Contract No. 3, from January 1, 1916, to December 31, 1916.

CONTRACT No. 3	Requisi- tion	To date	Payments authorised	To contractor	
Order No. 3...	1.....	Jan. 6, 1916	Track materials, ballast	Upper Hudson Stone Co.	\$395 76
	2.....	April 30, 1916	Track materials, ballast	Upper Hudson Stone Co.	7,663 83
	3.....	May 31, 1916	Track materials, ballast	Upper Hudson Stone Co.	2,643 00
	4.....	June 30, 1916	Track materials, ballast	Upper Hudson Stone Co.	1,657 23
	5.....	July 31, 1916	Track materials, ballast	Upper Hudson Stone Co.	2,359 61
	6.....	Aug. 31, 1916	Track materials, ballast	Upper Hudson Stone Co.	4,065 63
	7.....	Sept. 30, 1916	Track materials, ballast	Upper Hudson Stone Co.	2,766 61
	8.....	Nov. 30, 1916	Track materials, ballast	Upper Hudson Stone Co.	2,035 15
					\$24,584 81
	1.....	Jan. 17, 1916	Track materials, ballast	Haverstraw Crushed Stone Co.	\$5,460 33
					5,460 33
	1.....	Jan. 31, 1916	Track materials, nut locks	Robert F. Horsey	\$14 15
	2.....	April 30, 1916	Track materials, nut locks	Robert F. Horsey	27 73
	3.....	May 31, 1916	Track materials, nut locks	Robert F. Horsey	49 00
	4.....	Aug. 31, 1916	Track materials, nut locks	Robert F. Horsey	39 68
	5.....	Sept. 30, 1916	Track materials, nut locks	Robert F. Horsey	45 02
					188 53
	1.....	Jan. 31, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	\$1,443 23
	2.....	Feb. 29, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	5,920 25
	3.....	April 30, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	19,242 19
	4.....	May 31, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	6,188 92
	5.....	June 30, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	4,656 41
	6.....	Aug. 31, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	1,966 89
	7.....	Sept. 30, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	11,987 71
	8.....	Oct. 31, 1916	Track materials, manganese steel rails	Manganese Steel Rail Co.	22,259 23
					75,375 94

## RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK — Continued

## CONTRACT No. 3 — Continued

## XXXIX. DISBURSEMENTS — TRACK MATERIALS — Continued

Contract No. 3	Requisition	To date	Payments authorized	To contractor	
Order No. 3...	1.....	Jan. 31, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	\$1,144 71
	2.....	Feb. 29, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	5,804 56
	3.....	Mar. 31, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	2,935 73
	4.....	Apr. 30, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	4,453 76
	5.....	May 31, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	8,877 44
	6.....	June 30, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	3,010 00
	7.....	July 31, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	2,141 25
	8.....	Aug. 31, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	4,075 24
	9.....	Sept. 30, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	6,613 53
	10.....	Oct. 31, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	5,428 60
	11.....	Nov. 30, 1916	Track materials, track-rail splice bars.	The Rail Joint Co.	1,181 16
	1.....	Jan. 31, 1916	Track materials, felt pads.	Q. & C. Co.	\$145 80
	2.....	May 31, 1916	Track materials, felt pads.	Q. & C. Co.	1,987 87
	1.....	Jan. 31, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	\$10,065 42
	2.....	Mar. 31, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	823 84
	3.....	June 30, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	2,683 49
	4.....	July 31, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	2,790 23
	5.....	Aug. 31, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	2,680 20
	6.....	Sept. 30, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	15,447 89
	7.....	Oct. 31, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	1,100 85
	8.....	Nov. 30, 1916	Track materials, treated ties and timber.	Long Leaf Pine Co.	708 47
	1.....	Feb. 29, 1916	Track materials, anti-crawpers.	Cresphook Co.	\$2,751 14
	2.....	June 30, 1916	Track materials, anti-crawpers.	Cresphook Co.	1,475 02
	3.....	July 31, 1916	Track materials, anti-crawpers.	Cresphook Co.	1,711 71
	4.....	Aug. 31, 1916	Track materials, anti-crawpers.	Cresphook Co.	1,171 86
	1.....	May 31, 1916	Track materials, malleable iron.	Foran Foundry & Mfg. Co.	\$8,388 88
	2.....	July 31, 1916	Track materials, malleable iron.	Foran Foundry & Mfg. Co.	3,760 06
	3.....	Sept. 30, 1916	Track materials, malleable iron.	Foran Foundry & Mfg. Co.	2,754 78
	4.....	Oct. 31, 1916	Track materials, malleable iron.	Foran Foundry & Mfg. Co.	1,813 75

\$46,713 72

2,133 76

33,392 46

7,108 15

14,010 97

1	Feb. 29, 1916	Mar. 16, 1916	Track materials, tie plates, type A	Henry W. Lockwood	\$2,444 81
2	Mar. 31, 1916	Apr. 26, 1916	Track materials, tie plates, type A	Henry W. Lockwood	4,989 80
3	Apr. 30, 1916	May 25, 1916	Track materials, tie plates, type A	Henry W. Lockwood	8,140 05
4	May 31, 1916	June 18, 1916	Track materials, tie plates, type A	Henry W. Lockwood	6,919 80
5	June 30, 1916	July 20, 1916	Track materials, tie plates, type A	Henry W. Lockwood	11,484 80
6	Aug. 31, 1916	Sept. 14, 1916	Track materials, tie plates, type A	Henry W. Lockwood	4,900 00
7	Sept. 30, 1916	Oct. 19, 1916	Track materials, tie plates, type A	Henry W. Lockwood	7,449 45
8	Oct. 31, 1916	Nov. 16, 1916	Track materials, tie plates, type A	Henry W. Lockwood	2,843 40
9	Dec. 31, 1916	Dec. 20, 1916	Track materials, tie plates, type A	Henry W. Lockwood	4,875 20
1	Feb. 29, 1916	Mar. 16, 1916	Track materials, tie plates, type B	L. D. Rockwell	\$159 49
2	Apr. 30, 1916	May 25, 1916	Track materials, tie plates, type B	L. D. Rockwell	1,000 84
3	May 31, 1916	June 22, 1916	Track materials, tie plates, type B	L. D. Rockwell	1,986 85
4	June 30, 1916	July 20, 1916	Track materials, tie plates, type B	L. D. Rockwell	1,400 84
5	Nov. 30, 1916	Dec. 13, 1916	Track materials, tie plates, type B	L. D. Rockwell	609 00
1	Mar. 31, 1916	Apr. 20, 1916	Track materials, tie plates, type C	L. D. Rockwell	\$228 47
2	Apr. 30, 1916	May 25, 1916	Track materials, tie plates, type C	L. D. Rockwell	203 00
3	May 31, 1916	June 18, 1916	Track materials, tie plates, type C	L. D. Rockwell	789 00
4	June 30, 1916	July 27, 1916	Track materials, tie plates, type C	L. D. Rockwell	488 28
5	Nov. 30, 1916	Dec. 13, 1916	Track materials, tie plates, type C	L. D. Rockwell	203 00
1	Mar. 31, 1916	Apr. 20, 1916	Track materials, tie plates, type D	H. W. Lockwood	\$346 71
2	May 31, 1916	June 12, 1916	Track materials, tie plates, type D	H. W. Lockwood	1,079 98
3	June 30, 1916	July 20, 1916	Track materials, tie plates, type D	H. W. Lockwood	216 07
4	Aug. 31, 1916	Sept. 14, 1916	Track materials, tie plates, type D	H. W. Lockwood	544 03
5	Sept. 30, 1916	Oct. 19, 1916	Track materials, tie plates, type D	H. W. Lockwood	296 40
6	Nov. 30, 1916	Dec. 13, 1916	Track materials, tie plates, type D	H. W. Lockwood	10 79
1	Feb. 29, 1916	Mar. 16, 1916	Track materials, tie plates, type E	H. W. Lockwood	\$237 45
2	June 30, 1916	July 20, 1916	Track materials, tie plates, type E	H. W. Lockwood	810 10
3	Sept. 30, 1916	Oct. 19, 1916	Track materials, tie plates, type E	H. W. Lockwood	1,239 09
4	Oct. 31, 1916	Nov. 16, 1916	Track materials, tie plates, type E	H. W. Lockwood	648 23
5	Nov. 30, 1916	Dec. 20, 1916	Track materials, tie plates, type E	H. W. Lockwood	865 37
1	Mar. 31, 1916	Apr. 27, 1916	Track materials, tie plates, type F	Rampage Iron Works	\$249 26
2	June 30, 1916	July 27, 1916	Track materials, tie plates, type F	Rampage Iron Works	131 20
3	Aug. 31, 1916	Sept. 14, 1916	Track materials, tie plates, type F	Rampage Iron Works	245 75
4	Nov. 30, 1916	Dec. 20, 1916	Track materials, tie plates, type F	Rampage Iron Works	5 55
1	Feb. 29, 1916	Mar. 9, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	\$1,071 33
2	Mar. 31, 1916	May 4, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	6,785 03
3	Apr. 30, 1916	May 18, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	1,202 64
4	May 31, 1916	June 16, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	10,078 98
5	June 30, 1916	July 20, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	6,385 90
6	Aug. 31, 1916	Sept. 14, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	10,321 64
7	Sept. 30, 1916	Oct. 19, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	6,457 30
8	Oct. 31, 1916	Nov. 16, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	3,421 14
9	Nov. 30, 1916	Dec. 13, 1916	Track materials, bolts and nuts	Oliver Iron & Steel Co.	1,470 90

52,535 50

5,166 22

1,796 75

2,505 13

3,190 24

648 76

46,891 74

RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK — *Concluded*CONTRACT NO. 3 — *Continued*XXXIX. DISBURSEMENTS — TRACK MATERIALS — *Concluded*

Contract No. 3	Requisition	To date	Payments authorized	To contractor	
Order No. 3..	1.....	Feb. 29, 1916	Track materials, screw spikes and lag screws.	American Iron & Steel Manufacturing Co.	\$873 16
	2.....	Mar. 31, 1916	Track materials, screw spikes and lag screws.	American Iron & Steel Manufacturing Co.	6,526 35
	3.....	May 31, 1916	Track materials, screw spikes and lag screws.	American Iron & Steel Manufacturing Co.	3,830 64
	4.....	June 30, 1916	Track materials, screw spikes and lag screws.	American Iron & Steel Manufacturing Co.	3,866 24
	5.....	Aug. 31, 1916	Track materials, screw spikes and lag screws.	American Iron & Steel Manufacturing Co.	1,465 80
	6.....	Sept. 30, 1916	Track materials, screw spikes and lag screws.	American Iron & Steel Manufacturing Co.	801 08
	1.....	Feb. 29, 1916	Track materials, cut track spikes.	H. W. Lockwood	\$1,430 37
	2.....	Mar. 31, 1916	Track materials, cut track spikes.	H. W. Lockwood	1,417 92
	3.....	Apr. 30, 1916	Track materials, cut track spikes.	H. W. Lockwood	672 60
	4.....	May 31, 1916	Track materials, cut track spikes.	H. W. Lockwood	1,922 23
	5.....	June 30, 1916	Track materials, cut track spikes.	H. W. Lockwood	2,676 24
	6.....	Aug. 31, 1916	Track materials, cut track spikes.	H. W. Lockwood	1,401 84
	7.....	Sept. 30, 1916	Track materials, cut track spikes.	H. W. Lockwood	1,174 61
	8.....	Oct. 31, 1916	Track materials, cut track spikes.	H. W. Lockwood	1,274 40
	1.....	Feb. 29, 1916	Track materials, cast-iron.	American Brake Shoe & Foundry Co.	\$594 96
	2.....	Apr. 30, 1916	Track materials, cast-iron.	American Brake Shoe & Foundry Co.	839 81
	3.....	May 31, 1916	Track materials, cast-iron.	American Brake Shoe & Foundry Co.	1,921 43
	4.....	Sept. 30, 1916	Track materials, cast-iron.	American Brake Shoe & Foundry Co.	111 53
	5.....	Nov. 30, 1916	Track materials, cast-iron.	American Brake Shoe & Foundry Co.	146 66
	1.....	Feb. 29, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	\$1,040 95
	2.....	Apr. 30, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	21,536 48
	3.....	May 31, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	37,370 70
	4.....	June 30, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	61,967 83
	5.....	July 31, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	76,316 09
	6.....	Sept. 30, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	130,067 03
	7.....	Oct. 31, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	138,091 32
	8.....	Nov. 30, 1916	Track materials, untreated ties and timber.	J. H. Burton & Co., Inc.	79,311 31
	3.....	Mar. 31, 1916	Track materials, open-beath rail.	Bethlehem Steel Products Co.	\$67,840 61
	4.....	May 31, 1916	Track materials, open-beath rail.	Bethlehem Steel Products Co.	31,160 33
	5.....	June 30, 1916	Track materials, open-beath rail.	Bethlehem Steel Products Co.	72,237 79
	6.....	July 31, 1916	Track materials, open-beath rail.	Bethlehem Steel Products Co.	15,643 61
					\$14,863 17
					11,060 10
					3,604 33
					544,510 93

Order No. 4.	7.....	Sept. 30, 1916	Track materials, open-hearth rail	Bethlehem Steel Products Co.	\$4,126 46
	8.....	Oct. 31, 1916	Track materials, open-hearth rail	Bethlehem Steel Products Co.	71,231 83
	9.....	Nov. 30, 1916	Track materials, open-hearth rail	Bethlehem Steel Products Co.	6,646 53
Order No. 4.	1.....	Aug. 31, 1916	Track materials, special work	Wm. Wharton, Jr., Inc.	\$2,240 77
	2.....	Sept. 30, 1916	Track materials, special work	Wm. Wharton, Jr., Inc.	16,763 60
	3.....	Nov. 30, 1916	Track materials, special work	Wm. Wharton, Jr., Inc.	12,391 96
Order No. 5.	1.....	June 30, 1914	Track materials, special work	Bethlehem Steel Products Co., Assignee	\$5,040 90
	2.....	July 31, 1916	Track materials, special work	Bethlehem Steel Products Co., Assignee	4,648 50
	3.....	Oct. 31, 1916	Track materials, special work	Bethlehem Steel Products Co., Assignee	8,298 90
Order No. 6.	1.....	Nov. 30, 1916	Track materials, special work	Bethlehem Steel Products Co., Assignee	2,378 70
	2.....	Aug. 31, 1916	Track materials, special work	Ramapo Iron Works	\$20,836 00
	3.....	Oct. 31, 1916	Track materials, special work	Ramapo Iron Works	4,253 00
Order No. 3.	1.....	Nov. 30, 1916	Track materials, special work	Ramapo Iron Works	2,645 00
	2.....	Feb. 29, 1916	Track materials, special work	Ramapo Iron Works	\$20,774 56
	3.....	Mar. 31, 1916	Track materials, special work	Ramapo Iron Works	18,311 06
Total amount paid to the various contractors for the supply of track materials pursuant to the provisions of Contract No. 3, from January 1, 1916, to December 31, 1916 ..					52,219 49
					\$1,340,444 28

**RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK**  
**CONTRACT No. 3**

**XL. DISBURSEMENTS — TRACK INSTALLATION**

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for the installation of tracks, under the provisions of Contract No. 3, and the agreements amendatory thereof and supplemental thereto, for the construction of the railroad under Contract No. 3, from January 1, 1916, to December 31, 1916.

Route 18, Secs. 1 and 2	Requisition	To date	Payments authorized	To contractor	Amount	Total
Route 18, Secs. 1 and 2	1. ....	Mar. 31, 1916	As stated on page 1023 of the minutes of the Public Service Commission.....	Coast & Lakes Contracting Corporation.....	\$904 91	\$28,332 37
	2. ....	June 30, 1916	As stated on page 1090 of said minutes.....	Coast & Lakes Contracting Corporation.....	2,664 23	
	3. ....	July 31, 1916	As stated on page 1360 of said minutes.....	Coast & Lakes Contracting Corporation.....	6,539 09	
	4. ....	Aug. 31, 1916	As stated on page 1518 of said minutes.....	Coast & Lakes Contracting Corporation.....	4,839 15	
	5. ....	Sept. 30, 1916	As stated on page 1709 of said minutes.....	Coast & Lakes Contracting Corporation.....	5,899 57	
	6. ....	Oct. 31, 1916	As stated on page 1893 of said minutes.....	Coast & Lakes Contracting Corporation.....	955 39	
	7. ....	Nov. 30, 1916	As stated on page 2057 of said minutes.....	Coast & Lakes Contracting Corporation.....	8,456 97	
Route 4-16 and 43, Secs. 7 to 15	1. ....	May 31, 1916	As stated on page 1023 of said minutes.....	The Empire Construction Co.....	\$6,504 13	\$28,332 37
	2. ....	June 30, 1916	As stated on page 1130 of said minutes.....	The Empire Construction Co.....	10,044 03	
	3. ....	July 31, 1916	As stated on page 1302 of said minutes.....	The Empire Construction Co.....	8,937 58	
	4. ....	Aug. 31, 1916	As stated on page 1547 of said minutes.....	The Empire Construction Co.....	10,923 99	
	5. ....	Sept. 30, 1916	As stated on page 1708 of said minutes.....	The Empire Construction Co.....	13,545 97	
	6. ....	Oct. 31, 1916	As stated on page 1862 of said minutes.....	The Empire Construction Co.....	11,454 86	
	7. ....	Nov. 30, 1916	As stated on page 2057 of said minutes.....	The Empire Construction Co.....	15,724 56	
Route 4-16 and 43, Secs. 7 to 15	1. supplemental.....	June 30, 1916	As stated on page 1128 of said minutes.....	The Empire Construction Co.....	\$79,144 36	\$85,441 85
	2. ....	July 31, 1916	As stated on page 1743 of said minutes.....	The Empire Construction Co.....	\$769 85	
	3. ....	Sept. 30, 1916	As stated on page 1832 of said minutes.....	The Empire Construction Co.....	710 59	
	4. ....	Nov. 30, 1916	As stated on page 2119 of said minutes.....	The Empire Construction Co.....	2,443 77	
					2,373 50	
					\$6,267 19	

1	Dec. 31, 1915	Jan. 13, 1916	As stated on page 65 of said minutes	Thomas Crimmins Contracting Co.	\$10,403 91
2	Jan. 31, 1916	Feb. 24, 1916	As stated on page 308 of said minutes	Thomas Crimmins Contracting Co.	9,714 40
3	Mar. 31, 1916	April 20, 1916	As stated on page 634 of said minutes	Thomas Crimmins Contracting Co.	3,908 01
4	April 30, 1916	May 11, 1916	As stated on page 740 of said minutes	Thomas Crimmins Contracting Co.	4,889 48
5	May 31, 1916	June 15, 1916	As stated on page 979 of said minutes	Thomas Crimmins Contracting Co.	5,848 98
6	June 30, 1916	July 18, 1916	As stated on page 1133 of said minutes	Thomas Crimmins Contracting Co.	6,861 70
7	July 31, 1916	Aug. 16, 1916	As stated on page 1373 of said minutes	Thomas Crimmins Contracting Co.	6,536 09
8	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1649 of said minutes	Thomas Crimmins Contracting Co.	16,660 06
9	Sept. 30, 1916	Oct. 19, 1916	As stated on page 1743 of said minutes	Thomas Crimmins Contracting Co.	17,487 49
10	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1900 of said minutes	Thomas Crimmins Contracting Co.	13,437 26
11	Nov. 30, 1916	Dec. 20, 1916	As stated on page 2119 of said minutes	Thomas Crimmins Contracting Co.	3,380 36
1, supplemental	Nov. 30, 1916	Dec. 20, 1916	As stated on page 2118 of said minutes	Thomas Crimmins Contracting Co.	\$97,319 56
Total amount paid to the various contractors for installation of tracks, pursuant to the provisions of Contract No. 3, from January 1, 1916, to December 31, 1916,.....					\$1,477 08
Total amount paid to the various contractors for installation of tracks, pursuant to the provisions of Contract No. 3, from January 1, 1916, to December 31, 1916,.....					\$98,796 66
Total amount paid to the various contractors for installation of tracks, pursuant to the provisions of Contract No. 3, from January 1, 1916, to December 31, 1916,.....					\$312,570 52

## DUAL SYSTEM CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK

## CONTRACT NO. 3

## DISBURSEMENTS

## XLI. REAL ESTATE

Statement showing the requisitions made upon the Public Service Commission for the First District, New York, and the payments authorized under the direction of the Public Service Commission, to be made for real estate, acquired for and in behalf of the City of New York, under provision of Contract No. 3, with the Interborough Rapid Transit Company, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction of the Dual System of Rapid Transit Railroads under Contract No. 3, from January 1, 1916, to December 31, 1916.

	Award or purchase price	Adver- tising	Special service	Clerical and stenog- rapher	Com- missioners of Appraisal	Office expenses	Title examina- tion and searches	Total
Estate in fee: In the matter of acquiring an estate in fee in and to certain premises situated on the westerly side of Nostrand avenue from Union street to Eastern Parkway, in the Borough of Brooklyn, required for the construction, etc., of the Eastern Parkway and Nostrand Avenue routes.								
Award made pursuant to report of Commissioners of Appraisal, dated Oct. 21, 1915; confirmed by the Supreme Court on Dec. 27, 1915.	\$99,243 63							
Advertising notice of filing for confirmation of report dated Oct. 21, 1915, of the Commissioners of Appraisal appointed by the Supreme Court, Second Judicial District, as per bill taxed Feb. 3, 1916.		\$201 60						
Compensation to real estate expert for services rendered the Commissioners of Appraisal in the above proceedings, as per bill taxed by Supreme Court, Second Judicial District, March 6, 1916.								
Services as appraiser, rendered the Commissioners of Appraisal, in the above proceeding, as per bill taxed Feb. 3, 1916.			\$200 00					
Services rendered in furnishing real estate data for Commissioners of Appraisal, as per bill taxed Jan. 16, 1916.			250 00					
City of New York: for compensation of the land for the expenses of Commissioners of Estimate and Appraisal for clerks,			30 00					



## DUAL SYSTEM CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK — Continued

## CONTRACT NO. 3 — Continued

## DISBURSEMENTS — Continued

## XLI. REAL ESTATE — Continued

	Award or purchase price	Adver- tising	Special service	Clerical and sten- ographic	Com- missioners of Appraisal	Office expenses	Title examin- ation and searches	Total
Estate in fee: In the matter of acquiring an estate in fee to certain premises situated on the easterly side of the Bronx river near West Farms road and Devoe avenue, Lebanon street, East 179th street, Bronx Park avenue, Unionport road, East 186th street and Birchell avenue, in the Borough of the Bronx.								
Services rendered as expert witnesses in the above proceeding, as per bill taxed Feb. 4, 1916.			\$350 00					
Fees to Commissioners of Appraisal in above entitled proceedings, as per bills taxed April 3, 1916.					\$4,630 07			
Services rendered as consulting engineer in above entitled proceedings, as per bill taxed June 17, 1916.			400 00	\$89 30				
Stenographic services rendered, as per bill taxed June 17, 1916.								
City of New York: For reimbursement of the fund for expenses of Commissioners of Estimate and Appraisal, as per bill taxed June 17, 1916.				466 61		\$6 11		\$5,922 02
Estate in fee: In the matter of acquiring an estate in fee to certain premises situated on the southerly side of East 175th street, between Boston road and Bronx river.								
Award made pursuant to report of Commissioners of Appraisal, appointed by the Supreme Court, First Judicial District, in the above entitled proceedings, dated Aug. 31, 1916.	\$50,345 90							
Confirmed by said court on Oct. 23, 1916.	218 10							
Costs and disbursements awarded in the above proceeding.								
Services rendered as real estate appraiser in the above entitled proceeding, as per bill taxed April 19, 1916.			350 00					
Services rendered as building expert, as per bill taxed April 19, 1916.			100 00					

Fees to Commissioners of Appraisal in above entitled proceeding as per bill taxed Nov. 27, 1916.....					\$2,100 00	\$13 67	
<b>Easements: In the matter of acquiring easements in certain premises situate on the westerly side of Mott avenue and the easterly side of Exterior street, south of East 138th street, Bronx.</b>							
Award made pursuant to report of Commissioners of Appraisal, dated March 28, 1916, confirmed by the Supreme Court, Bronx county, August 8, 1916, in the above entitled proceedings.....	\$35,402 19						
Advertising notice of the filing for confirmation of a report dated March 28, 1916, of the Commissioners of Appraisal in the above entitled proceeding, as per bill taxed by Supreme Court, Oct. 31, 1916.....		\$63 36					
Services rendered as real estate experts in the above entitled proceedings, as per bills taxed June 15, and July 20, 1916.....		\$2,850 00					
Services rendered as building expert in the above entitled proceeding, as per bill taxed July 20, 1916.....		450 00					
Stenographic services rendered in the above entitled proceeding, as per bill taxed June 15, 1916.....				\$17 70			
Fees to Commissioners of Appraisal in above entitled proceedings, as per bill taxed June 15, 1916.....					\$3,390 00		
The City of New York: For reimbursement of the fund for expenses of Commissioners, etc., as per bill taxed June 15, 1916.....				1,893 74		\$20 83	
<b>Easements: In the matter of acquiring easements in certain property situated on the west side of Davis street, adjacent to the north shore yard of the Long Island Railroad, county of Queens.</b>							
Advertising notice of the filing for confirmation of a report dated May 10, 1916, of Commissioners of Appraisal, in above entitled proceeding, as per bill taxed Oct. 24, 1916.....		\$70 20					
Services as real estate expert in the above entitled proceeding, as per bill taxed by Supreme Court, Second Judicial District, August 9, 1916.....		\$100 00					
Stenographic services rendered in the above entitled proceeding, as per bill taxed August 9, 1916.....				\$43 61			
The City of New York: For reimbursement of the fund for expenses of Commissioners, etc., as per bill taxed August 9, 1916.....				129 56		\$0 82	
Fees for examining and insuring titles in above property.....							\$240 63

54,053 02

44,057 82

604 82

DUAL SYSTEM CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK — *Concluded*CONTRACT NO. 3 — *Concluded*DISBURSEMENTS — *Concluded*XLI. REAL ESTATE — *Concluded*

	Award or purchase price	Adver- tising	Special service	Clerical and sten- ographic	Com- missioners of Appraisal	Office expenses	Title examina- tion and searches	Total
Easements: In the matter of acquiring easements in certain property situated at the southwest corner of Clark and Fulton streets, in the Borough of Brooklyn, county of Queens. Advertising notices of proposed application to Supreme Court in above entitled proceeding, as per bill taxed Sept. 27, 1916.....		\$210 40						
Services rendered as special counsel in above entitled proceeding as per bill taxed Oct. 9, 1916.....			\$55 56					\$265 96
Estate in fee: In the matter of acquiring an estate in fee in certain property situated in the block bounded by Eastern Parkway, Ralph East New York and Buffalo avenues, in the Borough of Brooklyn. Advertising notice of proposed application to Supreme Court, Second Judicial District, in above entitled proceeding, as per bill taxed Sept. 27, 1916.....		\$272 00						
Services rendered as special counsel in above entitled proceeding, as per bill taxed Oct. 9, 1916.....			\$55 56					327 56
Estate in fee: In the matter of acquiring an estate in fee in certain property situated at Fulton street, Willoughby street and Adam street, in the Borough of Brooklyn. Advertising notices of proposed application to Supreme Court, Second Judicial District, in above entitled proceeding as per bill taxed Sept. 27, 1916.....		\$155 20						
Services rendered as special counsel in above entitled proceeding as per bill taxed Oct. 9, 1916.....			\$55 55					210 75

Estate in fee: In the matter of acquiring an estate in fee in certain property situated on the northerly side of Livonia Avenue, from East 98th street to Howard Avenue, in the Borough of Richmond, as per bill taxed Sept. 27, 1916.	\$147 20	\$55 55					
Services rendered as special counsel in above entitled proceeding, as per bill taxed Oct. 9, 1916.							
<b>Estate in fee: In the matter of acquiring an estate in fee in certain property situated on Park Avenue, 41st and 42d streets, in the Borough of Manhattan.</b>							
Services rendered as building expert in the above entitled proceeding, as per bill taxed by Supreme Court, July 28, 1916.		\$600 00					
Total amount paid from funds contributed by the City of New York for real estate acquired under provisions of the various contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Dual System of Rapid Transit Railroads under Contract No. 3, from January 1, 1916, to December 31, 1916.							\$1,168,093 15

Total amount paid from funds contributed by the City of New York for real estate acquired under provisions of the various contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Dual System of Rapid Transit Railroads under Contract No. 3, from January 1, 1916, to December 31, 1916.....

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3

CORPORATE STOCK — *Concluded*

## XLII. INTEREST ON CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to interest on bonds pursuant to Contract No. 3.

Date of sale	Interest rate	Maturity	Issue of Stock					Total
			Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Nov. 11, 1915	2 1/2	Mar. 28, 1916	Jan. 7, 1916	.....	\$3,000 00	.....	\$3,000 00	
Nov. 16, 1915	2 1/2	Mar. 28, 1916	Jan. 11, 1916	.....	17,000 00	.....	17,000 00	
Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 21, 1916	.....	2,000 00	.....	2,000 00	
Feb. 16, 1916	2 1/2	Apr. 17, 1916	Feb. 17, 1916	.....	20,000 00	.....	20,000 00	
Feb. 16, 1916	2 1/2	Apr. 17, 1916	Feb. 21, 1916	.....	5,000 00	.....	5,000 00	
Feb. 16, 1916	2 1/2	Apr. 17, 1916	Feb. 28, 1916	.....	338,000 00	.....	338,000 00	
Feb. 18, 1916	2 1/2	Apr. 18, 1916	Mar. 2, 1916	.....	4,000 00	.....	4,000 00	
Feb. 18, 1916	2 1/2	Apr. 18, 1916	Mar. 6, 1916	.....	3,000 00	.....	3,000 00	
Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 17, 1916	.....	16,000 00	.....	16,000 00	
Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 20, 1916	.....	5,000 00	.....	5,000 00	
Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 22, 1916	.....	10,000 00	.....	10,000 00	
Feb. 24, 1916	2 1/2	Apr. 24, 1916	Mar. 24, 1916	.....	1,000 00	.....	1,000 00	
Mar. 9, 1916	2 1/2	Apr. 20, 1916	Apr. 11, 1916	.....	7,000 00	.....	7,000 00	
Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 13, 1916	.....	5,000 00	.....	5,000 00	
Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 17, 1916	.....	15,000 00	.....	15,000 00	
Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 21, 1916	.....	6,000 00	.....	6,000 00	
Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 24, 1916	.....	19,000 00	.....	19,000 00	
Apr. 8, 1916	2 1/2	Apr. 20, 1916	May 1, 1916	.....	7,578 75	.....	7,578 75	
May 1, 1916	3	Dec. 31, 1916	May 1, 1916	.....	6,421 25	.....	6,421 25	
May 1, 1916	3	Dec. 31, 1916	May 9, 1916	.....	8,000 00	.....	8,000 00	
May 1, 1916	3	Dec. 31, 1916	May 10, 1916	.....	3,000 00	.....	3,000 00	
May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	3,000 00	.....	3,000 00	
May 1, 1916	3	Dec. 31, 1916	May 20, 1916	.....	1,812 23	.....	1,812 23	
May 1, 1916	3	Dec. 31, 1916	May 20, 1916	.....	3,087 77	.....	3,087 77	
May 20, 1916	3	Dec. 31, 1916	June 1, 1916	.....	65,000 00	.....	65,000 00	
May 20, 1916	3	Dec. 31, 1916	June 1, 1916	.....	2,087 77	.....	2,087 77	
May 20, 1916	3	Dec. 31, 1916	June 1, 1916	.....		.....		

Sept. 1, 1916	3	Dec. 31, 1916	Sept. 2, 1916	287,000 00	287,000 00	31,278,337 51
Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 6, 1916	34,000 00	34,000 00	
Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 11, 1916	7,000 00	7,000 00	
Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 23, 1916	10,000 00	10,000 00	
Oct. 13, 1916	3 1/2	April 16, 1917	Oct. 27, 1916	9,337 51	9,337 51	
Nov. 23, 1916	3 1/2	June 30, 1917	Nov. 28, 1916	326,000 00	326,000 00	
Nov. 23, 1916	3	June 30, 1917	Dec. 1, 1916	191 73	191 73	
Dec. 1, 1916	3 1/2	Mar. 16, 1917	Dec. 1, 1916	26,808 27	26,808 27	
Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 18, 1916	1,000 00	1,000 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the payment of interest on corporate stock of the City of New York, issued pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916, .....						31,278,337 51
						31,278,337 51

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 3

## DISBURSEMENTS

## XLIII. INTEREST ON CORPORATE STOCK

Statement showing the payments made under the direction of the City Comptroller for interest due on the corporate stock issued by the City of New York for the construction and operation of the Dual System of Rapid Transit Railroads under contract with the Interborough Rapid Transit Company, Contract No. 3, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, from July 21, 1911, to December 31, 1916, including the interest on bonds issued for parts of the railroad under construction prior to said contract and later included in said contract.

	Lexington Avenue Subway	So. Blvd. and Westchester Avenue Route	Queens, Astoria and Woodside Route	Contract No. 3 prior to March, 1914	Contract No. 3 since March, 1914	Total Contract No. 3	Gross interest as reported by Comptroller	Additional interest applied
Sept. 1, 1912.....	\$33,935 26	.....	.....	.....	.....	\$33,935 26	\$135,050 75	\$101,115 49
Nov. 1, 1912.....	.....	.....	.....	.....	.....	.....	.....	.....
Nov. 1, 1913.....	150,081 00	.....	.....	.....	.....	150,081 00	211,363 79	52,302 79
May 1, 1913.....	.....	.....	.....	.....	.....	.....	.....	.....
Sept. 1, 1913.....	256,730 07	.....	.....	.....	.....	256,730 07	211,363 78	45,346 29
Nov. 1, 1913.....	9,145 44	\$981 44	\$208 49	\$639 10	.....	10,974 47	5,304 71	5,669 76
<b>Total interest on corporate stock.....</b>	<b>\$458,891 77</b>	<b>\$981 44</b>	<b>\$208 49</b>	<b>\$639 10</b>	.....	<b>\$460,720 80</b>	<b>\$563,123 03</b>	<b>\$102,402 23</b>
Interest paid Aug. 16, 1911, to April 16, 1912, on notes in anticipation of sale of May 7, 1912.....	10,139 56	.....	.....	.....	.....	10,139 56	6,397 74	5,741 82
Interest paid in 1913 on notes issued in 1912, taken up by bond sale, May 23, 1913.....	.....	.....	.....	.....	.....	.....	5,241 85	.....
Interest on other notes issued in 1913, paid 1913.....	13,336 80	1,417 48	3,464 73	1,160 44	.....	19,379 45	13,671 23	468 37
Interest on notes issued 1913, and paid prior to Mar. 1914.....	.....	.....	.....	26,442 42	.....	26,442 42	26,442 42	.....
<b>Totals.....</b>	<b>\$482,368 13</b>	<b>\$2,308 92</b>	<b>\$3,673 22</b>	<b>\$28,241 96</b>	.....	<b>\$516,082 23</b>	<b>\$614,876 27</b>	<b>\$99,194 04</b>
<b>Gross interest payable on corporate stock and corporate stock notes, issued for purposes of Contract No. 3, prior to March, 1914, and paid from "Interest on City Debt Accounts" appropriation funds.....</b>	.....	.....	.....	<b>\$516,082 23</b>	.....	<b>\$516,082 23</b>	.....	.....

Additional amounts applied to construction as shown in statement on page 122.....		\$8,194 04	.....	.....	\$98,194 04
Total gross interest payable on corporate stock and corporate stock notes issued from July 31, 1911, to March 1, 1914, the proceeds from the sale of such notes being applied to construction under Contract No. 3.....		\$614,876 27	.....	.....	\$614,876 27
Less interest on bank balances, deducted from date of sale to date of allotment of funds to the several construction funds, as per statements of City Comptroller.....		131,887 27	.....	.....	.....
Total amount of interest paid from "Appropriation Accounts," and later refunded by issue of corporate stock.....		\$483,289 00	.....	.....	.....
Interest paid for purposes of Contract No. 4, on corporate stock.....	Mar. 1, 1914	a\$202,003 61	.....	.....	.....
Interest paid for purposes of Contract No. 4, on corporate stock.....	May 1, 1914	10,322 33	.....	.....	.....
Interest paid for purposes of Contract No. 4, on corporate stock.....	Sept. 1, 1914	306,919 51	.....	.....	.....
Interest paid for purposes of Contract No. 4, on corporate stock.....	Nov. 1, 1914	8,930 29	.....	.....	.....
Interest on corporate stock notes — Jan.-Dec., 1914.....	.....	.....	.....	.....	.....
Less Jan.-Feb., 1914.....	.....	.....	.....	.....	.....
Interest on corporate stock.....	Mar.-Dec. '14	317,345 72	.....	.....	.....
Interest on corporate stock.....	Mar. 1, 1915	337,641 63	.....	.....	.....
Interest on corporate stock.....	May 1, 1915	19,511 16	.....	.....	.....
Interest on corporate stock.....	Sept. 1, 1915	337,641 63	.....	.....	.....
Interest on corporate stock.....	Nov. 1, 1915	19,511 15	.....	.....	.....
Interest on corporate stock.....	Dec. 1, 1915	316,356 38	.....	.....	.....
Interest on corporate stock notes.....	Jan.-Dec., '15	\$751,196 20	.....	.....	.....
Interest on corporate stock.....	Mar. 1, 1916	337,641 63	.....	.....	.....
Interest on corporate stock.....	May 1, 1916	19,511 15	.....	.....	.....
Interest on corporate stock.....	June 1, 1916	6316,356 33	.....	.....	.....
Interest on corporate stock.....	Sept. 1, 1916	c647,807 06	.....	.....	.....
Interest on corporate stock.....	Nov. 1, 1916	19,511 15	.....	.....	.....
Interest on corporate stock.....	Dec. 1, 1916	316,356 38	.....	.....	.....
Interest on corporate stock notes.....	Jan.-Dec., '16	196,916 31	.....	.....	.....
Deduct refund prepayments by subscribers.....		\$4,381,479 66	.....	.....	\$4,864,768 66
		.....	.....	.....	50,410 70
		.....	.....	.....	\$4,814,357 96

\* Includes \$1.08 paid from appropriations (A-3018).      Lessee:   a \$202,003.61, b \$300,000.00, c \$175,949.54.

## RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY

## CONTRACT NO. 3

## XLIV. REQUISITIONS AND CONTRIBUTIONS

Statement of requisitions made upon the Interborough Rapid Transit Company for funds, and the contributions made by the Interborough Rapid Transit Company towards the cost of construction of the Dual System of Rapid Transit Railroads, under the direction of the Public Service Commission for the First District, pursuant to Contract No. 3, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

Requisition	Amount	Contributions	Amount
February 3, 1916. As stated on page 184 of the minutes of the Public Service Commission, First District. Real estate and interest therein, 5th instalment on purchase of easements in property at the northeast corner of Lexington avenue and 42d street, Borough of Manhattan.....	\$50,000 00	Mar. 1, 1916 As stated on page 385 of the minutes of the Public Service Commission, First District.....	\$50,000 00
February 24, 1916. As stated on page 298 of said minutes. Real estate. Rent for temporary easements in two parcels of land at and near Park avenue and 135th street.....	166 66	Mar. 13, 1916 As stated on page 446 of said minutes.....	166 66
May 4, 1916. As stated on page 687 of said minutes. Real estate. Awards, costs and fees to Commissioners of Appraisal, in the matter of acquiring easements to certain premises on the easterly side of Bronx river near West Farms road, Devoe and other streets in the Borough of the Bronx.....	192,738 51	May 24, 1916 As stated on page 954 of said minutes.....	192,738 51
May 4, 1916. As stated on page 687 of said minutes. Real estate. Awards, costs and fees to Commissioners of Appraisal, in the matter of acquiring easements to certain premises at and near the intersection of Mott avenue and East 138th street, Borough of the Bronx.	78,884 75	May 24, 1916 As stated on page 952 of said minutes.....	73,884 75
May 26, 1916. As stated on page 833 of said minutes. Real estate. Purchase of award for damages in the matter of acquiring an estate in fee in certain property at the intersection of the easterly side of Walton avenue and the northerly side of East 140th street.....	40,500 00	May 26, 1916 As stated on page 983 of said minutes.....	40,500 00
May 16, 1916. As stated on page 753 of said minutes. Interest on corporate stock issued by the city for construction of the railroad under Contract No. 3.....	\$300,000 00	June 1, 1916 As stated on page 956 of said minutes.....	300,000 00

July 24, 1916. As stated on page 1195 of said minutes. Construction. Contract for the construction of station finish on Sections Nos. 7 to 11 inclusive, of Route No. 5, a part of the Seventh Avenue-Lexington Avenue Line, pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916. As stated on page 1194 of said minutes. Construction. Contract for the construction of station finish on Sections Nos. 12 to 15 inclusive, of Route No. 5, a part of the Seventh Avenue-Lexington Avenue Line, pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916. As stated on page 1197 of said minutes. Construction. Contract for the construction of 180th street yard on the White Plains Road Line, Route No. 18, pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916. As stated on page 1192 of said minutes. Construction. Contract for the reconstruction of the existing tunnel duct bench on Section No. 15, Route No. 5, of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad between 153d street and Walton avenue, Borough of the Bronx, from September 21, 1916, to December 31, 1916. As stated on page 1583 of said minutes. Interest in corporate stock issued by the city for construction of the railroad under Contract No. 3, from October 11, 1916, to December 31, 1916. As stated on page 1685 of said minutes. Real estate. Acquisition of certain easements in the Grand Central Terminal property in the vicinity of Lexington avenue and East 43d street, Borough of Manhattan, necessary in the construction, maintenance and operation of the Park Avenue-Lexington Avenue connection.	278,182 66	July 28, 1916	As stated on page 1256 of said minutes	278,182 66
July 24, 1916. As stated on page 1197 of said minutes. Construction. Contract for the construction of 180th street yard on the White Plains Road Line, Route No. 18, pursuant to Contract No. 3, from January 1, 1916, to December 31, 1916. As stated on page 1192 of said minutes. Construction. Contract for the reconstruction of the existing tunnel duct bench on Section No. 15, Route No. 5, of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad between 153d street and Walton avenue, Borough of the Bronx, from September 21, 1916, to December 31, 1916. As stated on page 1583 of said minutes. Interest in corporate stock issued by the city for construction of the railroad under Contract No. 3, from October 11, 1916, to December 31, 1916. As stated on page 1685 of said minutes. Real estate. Acquisition of certain easements in the Grand Central Terminal property in the vicinity of Lexington avenue and East 43d street, Borough of Manhattan, necessary in the construction, maintenance and operation of the Park Avenue-Lexington Avenue connection.	316,091 00	July 28, 1916	As stated on page 1257 of said minutes	316,091 00
July 24, 1916. As stated on page 1192 of said minutes. Construction. Contract for the reconstruction of the existing tunnel duct bench on Section No. 15, Route No. 5, of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad between 153d street and Walton avenue, Borough of the Bronx, from September 21, 1916, to December 31, 1916. As stated on page 1583 of said minutes. Interest in corporate stock issued by the city for construction of the railroad under Contract No. 3, from October 11, 1916, to December 31, 1916. As stated on page 1685 of said minutes. Real estate. Acquisition of certain easements in the Grand Central Terminal property in the vicinity of Lexington avenue and East 43d street, Borough of Manhattan, necessary in the construction, maintenance and operation of the Park Avenue-Lexington Avenue connection.	269,222 50	July 28, 1916	As stated on page 1258 of said minutes	269,222 50
September 21, 1916. As stated on page 1583 of said minutes. Interest in corporate stock issued by the city for construction of the railroad under Contract No. 3, from October 11, 1916, to December 31, 1916. As stated on page 1685 of said minutes. Real estate. Acquisition of certain easements in the Grand Central Terminal property in the vicinity of Lexington avenue and East 43d street, Borough of Manhattan, necessary in the construction, maintenance and operation of the Park Avenue-Lexington Avenue connection.	9,791 25	July 28, 1916	As stated on page 1257 of said minutes	9,791 25
October 11, 1916. As stated on page 1685 of said minutes. Real estate. Acquisition of certain easements in the Grand Central Terminal property in the vicinity of Lexington avenue and East 43d street, Borough of Manhattan, necessary in the construction, maintenance and operation of the Park Avenue-Lexington Avenue connection.	175,949 54	Sept. 20, 1916	As stated on page 1659 of said minutes	175,949 54
November 22, 1916. As stated on page 1937 of said minutes. Construction. Contract for reconstruction of a portion of the White Plains Road Line and constructing a structure and tracks leading from said White Plains Road Line to the proposed 239th street subway yard, and a proposed yard adjacent thereto, to be constructed pursuant to the certificates for additional tracks, dated March 19, 1913, for \$84,200 00.	102,500 00	Oct. 31, 1916	As stated on page 1848 of said minutes	102,500 00
November 22, 1916. As stated on page 1937 of said minutes. Construction. Contract for reconstruction of a portion of the White Plains Road Line and constructing a structure and tracks leading from said White Plains Road Line to the proposed 239th street subway yard, and a proposed yard adjacent thereto, to be constructed pursuant to the certificates for additional tracks, dated March 19, 1913, for \$84,200 00.	\$1,808,726 93			\$1,808,726 93
Total amount of the requisitions made upon the Interborough Rapid Transit Company for the requirements of the Public Service Commission in the construction of the Dual System of Rapid Transit Railroad under Contract No. 3, from January 1, 1916, to December 31, 1916.	84,200 00	Nov. 29, 1916	As stated on page 2010 of said minutes	84,200 00
Total amount of the contributions made by the Interborough Rapid Transit Company towards the cost of construction of the Dual System of Rapid Transit Railroad under Contract No. 3, from January 1, 1916, to December 31, 1916.	\$1,892,926 93			\$1,892,926 93

**RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE INTERBOROUGH RAPID TRANSIT COMPANY**  
**CONTRACT NO. 3**  
**DISBURSEMENTS**  
**XLV. REAL ESTATE**

Statement showing the requisitions made upon the Interborough Rapid Transit Company and the payments authorized under the direction of the Public Service Commission to be made for real estate, acquired for and in behalf of the City of New York, under provision of Contract No. 3, and the agreements amendatory thereof and supplemental thereto, for the construction of the Dual System of Rapid Transit Railroads under Contract No. 3, from January 1, 1916, to December 31, 1916.

	Award or purchase price	Advertising	Special service	Clerical and stenographic service	Commissioners of appraisal	Office expense	Title examination and insurance	Total
Easements: Acquisition of certain permanent and perpetual rights and easements in Grand Central Terminal property, at the northeast corner of East 42d street and Lexington avenue, Borough of Manhattan.								
Disbursement on account of above during period January 1, 1916, to December 31, 1916.....	\$172,500 00							\$172,500 00
Easements: Acquisition of easements in and to certain premises under the roadbed of the N. Y. and H. R. R. at Park avenue and 135th street, Borough of the Bronx (route 5, sec. 15)....								
Rent of two parcels of land adjacent to the above premises, necessary during construction of said route.....	166 66							166 66
Estate in fee and easement: Acquisition of estate in fee and easements in and to certain premises at and near the intersection of Mott avenue and East 138th street in the Borough of the Bronx.								
Award made pursuant to report of Commissioners of Appraisal in the above proceeding, dated February 23, 1916, and confirmed by Supreme Court, April 4, 1916.....	70,926 43							
Costs and disbursements awarded by order of the Supreme Court, in the matter of award in the above named proceeding.....	105 00							
The City of New York: Reimbursement of a fund for the expenses of the Commissioners of Estimate and Appraisal in the above proceeding as per bill taxed April 19, 1916.....				\$390 07			\$3 65	

Fees to Commissioners of Appraisal for services in the above proceeding as per contract of the Supreme Court, First Judicial District, dated April 18, 1916.	73,584 75
<b>Estate in fee:</b> Acquisition of an estate in fee in and to certain premises situated on the easterly side of the Bronx river near West Farms road and Devos avenue, Lebaunon street, East 179th street, Bronx Park avenue, Unionport road, East 180th street and Birchall avenue in the Borough of the Bronx. Award made pursuant to report of Commissioners of Appraisal in above proceeding, dated March 10, 1916, and confirmed by Supreme Court April 7, 1916.	
Costs and disbursements awarded by order of the Supreme Court, in the matter of award in the above named proceeding	192,512 80
<b>Estate in fee and easements:</b> Acquisition of an estate in fee and easements in and to certain premises on the northeast corner of Walton avenue and 146th street, Borough of the Bronx. Purchase of above award for fee.	195 00
Total amount paid for real estate acquired under provision of Contract No. 3 with the Interborough Rapid Transit Company, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto for the construction and operation of the Dual System of Rapid Transit Railroad under Contract No. 3, from January 1, 1916, to December 31, 1916.	40,500 00
	192,707 80
	40,500 00
	\$479,459 21

## RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE INTERBOROUGH RAPID TRANSIT COMPANY

## CONTRACT NO. 3

## XLV. DISBURSEMENTS — CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission and the payments authorized under the direction of the Public Service Commission to be made from funds deposited with the City Comptroller as a contribution to cost of construction by the Interborough Rapid Transit Company, from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
Station finish Route 5 Sec. 7 to 11	1.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1707 of the minutes of the Public Service Commission.....	\$10,928 47	\$38,181 52
	2.....	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1833 of said minutes.....	12,953 53	
	3.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2007 of said minutes.....	14,299 52	
Station finish Route 5 Sec. 12 to 16	1.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1708 of said minutes.....	\$16,079 88	56,802 55
	2.....	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1890 of said minutes.....	18,368 41	
	3.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2009 of said minutes.....	22,354 56	
Construction 190th St. Yd.	1.....	Aug. 31, 1916	Sept. 8, 1916	As stated on page 1513 of said minutes.....	\$715 09	19,722 61
	2.....	Sept. 30, 1916	Oct. 16, 1916	As stated on page 1703 of said minutes.....	3,331 86	
	3.....	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1863 of said minutes.....	5,212 89	
	4.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2006 of said minutes.....	5,781 56	
	1, supplementary	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2006 of said minutes.....	4,581 09	
Total amount paid from funds contributed by the Interborough Rapid Transit Company, pursuant to the provisions of Contract No. 3, for work done and materials furnished by various contractors from January 1, 1916, to December 31, 1916.....					\$114,706 88	

# CONTRACT No. 4 — NEW YORK MUNICIPAL RAILWAY CORPORATION

## REQUISITIONS AND APPROPRIATIONS

XLVIa. JANUARY 1, 1916, TO DECEMBER 31, 1916

Statement of the additional requisitions made by the Public Service Commission, and the authorizations of the Board of Estimate and Apportionment for the issue of corporate stock of the City of New York, the proceeds from the sale thereof to be available for purposes of construction contracts and other commitments, pursuant to the provisions of the contract with the New York Municipal Railway Corporation, known as Contract No. 4, for construction equipment and operation of additional rapid transit railroads, from January 1, 1916, to December 31, 1916.

July 24, 1916	July 24, 1916	Amount	Appropriations	Amount
As stated on page 1185 of the minutes of the Public Service Commission for the First District, viz.: Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 4. ....	As stated on page 1185 of the minutes of the Public Service Commission for the First District, viz.: Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 4. ....	\$7,750,000 00	July 27, 1916. As stated on page 4541 of the minutes of the Board of Estimate and Apportionment. ....	\$7,750,000 00
July 24, 1916	As stated on page 1181 of the minutes of the Public Service Commission for the First District, viz.: Estimated additional sums necessary in the construction of Route No. 61, a portion of the Broadway-Fourth Avenue Rapid Transit Railroad (60th street tunnels). Said amount is requested subject to a later determination as to the portion of such sum that is chargeable as a part of the city's contribution towards construction under Contract No. 4. ....	\$4,194,797 00	July 28, 1916. As stated on page 4868 of the minutes of the Board of Estimate and Apportionment. ....	\$4,194,797 00
Aug. 18, 1916	As stated on page 1386 of the minutes of the Public Service Commission for the First District, viz.: Rescindment of certain unexpended balances of former authorizations reduced to suffice the purposes of the original requisitions: Centre Street Loop Line: Sec. 9-O-1. .... Contract construction. \$22,524 97 Sec. 9-O-2. .... Contract construction. 505 98 Sec. 9-O-3. .... Contract construction. 1,877 46 Sec. 9-O-4. .... Contract construction. 1,772 99 Sec. 9-O-5. .... Contract construction. 1,460 30 Maintenance. .... 3,147 96		Aug. 22, 1916. As stated on page 4925 of the minutes of the Board of Estimate and Apportionment. Rescindments, viz.: Centre Street Loop Lines Authorization plus premiums Amount rescinded Route-Sec. Original date plus amount rescinded 9-O-1. .... June 21, 1907 \$1,886,810 11 \$22,524 97 9-O-2. .... April 19, 1907 2,979,921 07 505 98 9-O-3. .... May 24, 1907 2,041,660 07 1,877 46 9-O-4. .... June 2, 1907 1,712,627 53 1,772 99 9-O-5. .... June 21, 1907 1,174,659 38 1,460 30 Maintenance. .... Sept. 26, 1912 8,013 43 3,147 96	\$80,289 66

CONTRACT NO. 4 — NEW YORK MUNICIPAL RAILWAY CORPORATION — *Continued*REQUISITIONS AND APPROPRIATIONS — *Continued*XLVla. JANUARY 1, 1916, TO DECEMBER 31, 1916 — *Continued*

Requisition	Amount	Appropriations	Amount
Fourth Avenue (Brooklyn) Subway		Fourth Avenue (Brooklyn) Subway	
Sec. MBX-1.....	Contract construction. \$76,084 79	Route-Sec. Contract date plus premium	Amount
Sec. 9-C-1.....	Contract construction. 74,770 18	MBX-1.... Oct. 26, 1909	rescinded \$76,084 79
Sec. 11-E-1 and 11-A-1.....	Contract construction. 182,405 84	9-C-1.... Oct. 26, 1909	3,519,295 70
Sec. 11-A-2.....	Contract construction. 161,314 27	11-E-1 and 11-A-1....	Oct. 26, 1909
Sec. 11-A-3.....	Contract construction. 3,195 46	11-A-1.... Oct. 26, 1909	3,624,985 10
Sec. 11-A-4.....	Contract construction. 124,842 30	11-A-2.... Oct. 26, 1909	2,431,368 20
Sec. 11-B-1.....	Contract construction. 56,930 89	11-A-3.... Oct. 26, 1909	2,046,257 77
Sec. 11-B-2.....	Contract construction. 103,446 98	11-A-4.... Oct. 26, 1909	2,893,908 47
Sec. 11-B-2.....	Contract construction. 1,953 83	11-B-1.... Sept. 19, 1912	1,830,253 50
Removal of temporary sewers.....	56 31	11-B-2.... { July 9, 1914	1,904,171 25
Reconstruction of platform edges.....	1,394 55	Removal of temporary sewers.....	28,000 00
Extra work and maintenance.....	6,081 14	sewers.... Mar. 26, 1915	15,233 75
	\$792,476 54	Reconstruction of platform edges.... May 7, 1915	5,180 00
		Extra work and maintenance.....	236,719 32
			\$792,476 54
Broadway (Manhattan)		Broadway (Manhattan)	
Route 6, Sec. 2-A.....	.....	Route-Sec. Contract date plus premium	Amount
*Route 6, Sec. 2.....	.....	5...2A.... July 16, 1912	rescinded \$3,162 09
Route 6, Sec. 3.....	.....	5...2.... Feb. 1, 1912	\$912,351 60
	\$117,400 53	5...2.... Jan. 18, 1912	221,934 94
		5...3.... Jan. 18, 1912	2,296,086 50
			102,293 55
			\$117,400 53

# AUDITOR'S REPORT

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<p>New Utrecht Avenue Route</p> <p>Route-Sec. 2..... \$4,874 97</p> <p>Station finish..... 6,299 86</p> <p>July 30, 1914 251,133 72 6,299 86</p> <p>..... \$11,174 83</p>		
<p>Amount rescinded to be applied to the unexpended sum remaining of the appropriation of \$60,000,000 and effecting no change in the additional sum necessary for the purposes of carrying out the city's obligation under the contract known as Contract No. 4..... \$26,524 41</p>	<p>Additional amounts rescinded and applied to the unexpended sum remaining of \$60,000,000, and additional issues of corporate stock, pursuant to Contract No. 4.....</p> <p>As stated on page 1602 of the minutes of the Public Service Commission for the First District, viz.: Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 4.....</p> <p>As stated on page 1753 of the minutes of the Public Service Commission for the First District, viz.: Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 4.....</p> <p>As stated on page 1883 of the minutes of the Public Service Commission for the First District, viz.: Estimated additional sum necessary in the construction, equipment and operation of the Dual System of Rapid Transit Railroads, pursuant to Contract No. 4.....</p>	<p>Sept. 26, 1916</p>
<p>Rescindment of sub-authorizations made since March 18, 1913, and effecting no change in the additional sum necessary for carrying out the city's obligation under the contract for additional railroads known as Contract No. 4.....</p>	<p>Additional sum made available for purposes of carrying out the city's obligation under the contract for additional railroads known as Contract No. 4.....</p> <p>Sept. 29, 1916. As stated on page 5901 of the minutes of the Board of Estimate and Apportionment.....</p>	<p>Oct. 24, 1916</p>
<p>Additional sum made available for purposes of carrying out the city's obligation under the contract for additional railroads known as Contract No. 4.....</p>	<p>As stated on page 6768 of the minutes of the Board of Estimate and Apportionment.....</p>	<p>Nov. 16, 1916</p>
<p>Total amount of the appropriations made by the Board of Estimate and Apportionment, the proceeds to be applied to the construction of the Dual System of Rapid Transit Railroads under Contract No. 4, from January 1, 1916, to December 31, 1916.....</p>	<p>Total amount of requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District, in the construction of additional railroads under Contract No. 4 with the New York Municipal Railway Corporation, from January 1, 1916 to December 31, 1916.....</p>	
	<p>\$924,817 15</p> <p>275,590 00</p> <p>200,000 00</p> <p>400,000 00</p> <p>\$9,549,817 15</p>	

# RAPID TRANSIT CONSTRUCTION FUND — NEW YORK MUNICIPAL RAILWAY CORPORATION CONTRACT NO. 4

## XLVIB. REQUISITIONS AND APPROPRIATIONS

Statement of the contracts for construction awarded and the requisitions made by the Public Service Commission upon the Board of Estimate and Apportionment and the appropriations made by the Board of Estimate and Apportionment, supplemental to the authorizations of March 18, 1913, for \$60,000,000, and additional authorizations, aggregating \$69,549,817.15, for the issue of corporate stock of the City of New York, the proceeds from the sale thereof to be applied to the contribution of the City of New York towards the cost of construction of the railroad under the provisions of the contract with the New York Municipal Railway Corporation, dated March 19, 1913, known as Contract No. 4, for construction, equipment and operation of new rapid transit railroads under the Dual System contracts, from January 1, 1916, to December 31, 1916.

Date of requisition	Route	Section	Description	Name of contractor	Date of authorization by Board of Estimate and Apportionment	Amount of authorisation
Feb. 2, 1916 Jan. 20, 1916	..... 8	..... 3	Station Finish. Supply of "Q" Varnish..... Construction of the Fourteenth Street Eastern Rapid Transit Railroad, from a point under East Fourteenth street near Avenue B, Borough of Manhattan, thence easterly under East Fourteenth street, private prop- erty, waterfront property, the East River waterfront of Brooklyn, under North Seventh street, Borough near Bedford avenue..... Additional for construction of the railroad — Astoria Woodside and Corona Route. From easterly end of the Queensboro bridge along and over Queensboro bridge Plaza, near Ely avenue, extending easterly to Jackson avenue, thence by one branch northerly along and over Jackson avenue, Second avenue to Beebe ave- nue and another branch easterly along and over Queens- borough to Van Dam street, Borough of Queens. Reapportionment of authorization for construction dated October 2, 1913, as follows: Original charge account of Contract No. 3, \$884,559.00; portion there charge- able to Contract No. 3, as adjusted, \$495,072.45; portion chargeable to Contract No. 4, \$389,486.55.	John W. Masury & Son.....	Feb. 18, 1916	\$2,265 00
June 25, 1915	36 & 37	1		Booth & Flinn, Limited.....	Feb. 18, 1916	6,639,023 50
				Suare & Triest Co.....	Feb. 18, 1916	131,119 20
				Suare & Triest Co.....	Feb. 18, 1916	308,186 55

## AUDITOR'S REPORT

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Date	Particulars	Debit	Credit	Balance
Feb. 24, 1916	Interest on corporate stock issued for purpose of Contract No. 4			
Jan. 20, 1916	Additional track installation on Fourth avenue subway. Construction of that portion of the Broadway-Fourth Avenue Rapid Transit Railroad, beginning at a point under Prospect Park plaza in the Borough of Brooklyn, from near St. John's place, southeasterly under Flatbush avenue to a point at the intersection of Flatbush avenue, Ocean avenue and Malbone street.			
Feb. 17, 1916	Interest on corporate stock issued for purpose of Contract No. 4			
Mar. 23, 1916	Additional station finish, Broadway-Fourth Avenue Rapid Transit Railroad			
Mar. 2, 1916	Station finish in sections 1 to 4, of Route No. 5, being a part of the Broadway-Fourth Avenue line.			
Mar. 16, 1916	Extra work: Additional work by passing gas mains and supporting structure at Broadway and Park place, Borough of Manhattan.			
June 15, 1915b	Interest on corporate stock issued for purpose of Contract No. 4			
May 15, 1916	Removal of certain stairways and construction of station finish in the Chambers street station of the Brooklyn Loop Lines, being a portion of the Broadway-Fourth Avenue Rapid Transit Railroad			
April 27, 1916	Track material, special work order No. 7			
May 17, 1916	Reapportionment of authorization for track material losses: original charge account of Contract No. 3, \$54,960.00; portion now chargeable to Contract No. 3, \$13,415.00; portion chargeable to Contract No. 4, \$41,545.00.			
June 1, 1916	Construction of the Fourteenth Street Eastern Rapid Transit Railroad from a point under West 14th street, Borough of Manhattan, near Sixth avenue and extending thence easterly under West and East 14th streets, to a point under East 14th street near Irving place.			
July 24, 1916	Construction of the Fourteenth Street Eastern Rapid Transit Railroad from a point under East 14th street, near Irving place to a point near Avenue B, in the Borough of Manhattan.			
Feb. 25, 1916	Thomas Crimmins Contracting Co.	480,000 00		480,000 00
Feb. 25, 1916		5,000 00		5,000 00
Mar. 17, 1916	Degnon Contracting Co.	1,370,098 00		1,370,098 00
Mar. 17, 1916		500,000 00		500,000 00
April 7, 1916	D. C. Serber	5,000 00		5,000 00
April 14, 1916	D. C. Serber	344,716 35		344,716 35
April 14, 1916	Degnon Contracting Co.	47,934 94		47,934 94
May 26, 1916		300,000 00		300,000 00
June 9, 1916	The Scaer & Triest Co.	2,180 00		2,180 00
June 16, 1916	Ramapo Iron Works	85,889 00		85,889 00
July 27, 1916	Ramapo Iron Works	41,545 00		41,545 00
July 27, 1916	Booth & Flian, Limited	2,528,618 25		2,528,618 25
July 27, 1916	The Degnon Contracting Co.	1,972,349 00		1,972,349 00

<sup>a</sup> A Requisition dated June 25, 1915, for \$373,906.00, reduced by the Board of Estimate and Apportionment in the sum of \$48,530.00 for contingencies. Remainder under

<sup>b</sup> Reapportionment of remaining balance of requisition for \$244,000, made on May 28, 1915, and reduced by Board of Estimate and Apportionment September 17, 1915, pending adjustment of certain items under the contract. Amount chargeable to Contract No. 3, \$223,065.06; amount chargeable to Contract No. 4, \$47,934.94; total, \$70,000.00.

## RAPID TRANSIT CONSTRUCTION FUND — NEW YORK MUNICIPAL RAILWAY CORPORATION — Continued

CONTRACT NO. 4 — Continued  
XLVb. REQUISITIONS AND APPROPRIATIONS — Continued

Date of requisition	Route	Section	DESCRIPTION	Name of contractor	Date of authorization by Board of Estimate and Apportionment	Amount of authorization
July 24, 1916	8	4	Construction of the Fourteenth Street Eastern Rapid Transit Railroad from a point under north 7th street, in the Borough of Brooklyn, near Bedford avenue, and extending easterly under North 7th street and Metropolitan avenue to a point near Manhattan avenue.	Mason & Hanger Co., Inc.	July 27, 1916	\$1,847,174 40
July 24, 1916	8	5	Construction of the Fourteenth Street Eastern Rapid Transit Railroad, from a point under Metropolitan avenue, near Manhattan avenue and extending easterly under Metropolitan avenue, to Bushwick avenue, thence southerly along Bushwick avenue to a point near Meserole street, Borough of Brooklyn.	MacArthur Bros. Co.	July 27, 1916	1,336,949 85
June 29, 1916	39	2	Additional station finish in the New Utrecht avenue section of the Broadway-Fourth Avenue Rapid Transit Railroad.	A. L. Guidone & Son, Inc.	July 27, 1916	6,000 00
July 24, 1916	61	.....	Construction of the Blackwell's Island tunnel, from a point under East 60th street near Second avenue, Borough of Manhattan, easterly under East 60th street, East river, Blackwell's Island, East river, water front property, private property, north Jane street, Queensboro bridge right of way, and ending at a point between William and Crescent streets, Borough of Queens.	P. McGovern & Company	July 28, 1916	f 4,194,797 00
Aug. 18, 1916	90	2	Additional, to adjust former authorizations for construction of certain work under the contract for the construction of the Brooklyn-Manhattan Loop Lines, Borough of Manhattan.	Deznon Contracting Co.	Aug. 22, 1916	44,348 25
Aug. 9, 1916 Aug. 11, 1916	..... .....	..... .....	Track material, special work order No. 3. Track installation, for the installation of tracks for a portion of the Broadway-Fourth Avenue Rapid Transit Railroad as follows: Routes Nos. 4 and 36 (Sections 1 to 4 inclusive), No. 5 (Sections Nos. 1 to 4 inclusive), No. 20 (Section 2), and No. 33 (Sections Nos. 1, 2 and 3).	Ramapo Iron Works	Aug. 22, 1916	1,018 00
				T. H. Reynolds Contracting Co., Inc.	Aug. 22, 1916	288,400 00

Aug. 9, 1916 <sup>c</sup>	.....	.....	Ramapo Iron Works	Aug. 22, 1916	1,794 50
Aug. 9, 1916 <sup>d</sup>	.....	.....	Foran Foundry & Manufacturing Co.	Aug. 22, 1916	125 00
Aug. 20, 1916	.....	.....	.....	Aug. 29, 1916	500,000 00
Aug. 23, 1916	.....	.....	.....	.....	.....
Sept. 26, 1916	.....	.....	.....	Aug. 29, 1916	410,000 00
Sept. 6, 1916	.....	.....	.....	Sept. 29, 1916	275,000 00
Aug. 23, 1916	.....	.....	Ramapo Iron Works	Sept. 29, 1916	29,859 00
Sept. 18, 1916	4, 36 & 20	.....	.....	Sept. 29, 1916	2,500 00
Sept. 21, 1916	49	.....	Serber-Stander Company, Inc.	Sept. 29, 1916	149,324 75
Sept. 18, 1916	12	1B	Kaufman & Garcey	Sept. 29, 1916	103,680 00
Oct. 24, 1916	.....	.....	Degnon Contracting Co.	Oct. 6, 1916	810,265 00
Oct. 11, 1916 <sup>e</sup>	36 & 37	1	.....	Oct. 27, 1916	200,000 00
Oct. 23, 1916	49	1 and 2	Thomas Crimmins Contracting Co.	Nov. 24, 1916	1,305 00
			Snare & Triest Co.	Nov. 24, 1916	52,654 00

<sup>c</sup> Requisition, dated August 9, 1916, for track materials for supply of special work, portions 421 and 422, divided as follows: Amount chargeable to Contract No. 3, \$1,794.50; amount chargeable to Contract No. 4, \$1,794.50; total, \$3,589.00.

<sup>d</sup> Requisition dated August 9, 1916, for track materials for supply of malleable iron, Order No. 3, divided as follows: Amount chargeable to Contract No. 3, \$375; amount chargeable to Contract No. 4, \$125; total, \$500.

<sup>e</sup> Requisition dated October 11, 1916, for relocation of tracks on Queensboro Bridge Plaza, divided as follows: Amount chargeable to Contract No. 3, \$1,595.00; amount chargeable to Contract No. 4, \$1,305.00; total, \$2,900.00.

The Board of Estimate and Apportionment authorized an issue of corporate stock to the amount of \$4,194,797.00, for purposes of construction of Route No. 61 (Sixtieth street tunnels), said amount is subject to a later determination as to the portion of such sum that is chargeable as a part of the city's contribution towards construction pursuant to the provisions of Contract No. 4.

**RAPID TRANSIT CONSTRUCTION FUND — NEW YORK MUNICIPAL RAILWAY CORPORATION — Concluded**  
**CONTRACT NO. 4 — Concluded**

**XLVib. REQUISITIONS AND APPROPRIATIONS — Concluded**

Date of requisition	Route	Section	Description	Name of contractor	Date of authorisation by Board of Estimate and Apportionment	Amount of authorisation
Sept. 28, 1916	4 & 36	1	Additional for construction under Union square and Broadway, from 14th street, northerly under Broadway, to West 28th street, Borough of Manhattan.	E. E. Smith Contracting Co.....	Nov. 24, 1916	\$65,000 00
Nov. 16, 1916	.....	.....	Interest on corporate stock issued for purposes of Contract No. 4.....	.....	Nov. 17, 1916	400,000 00
Nov. 22, 1916	49	1 and 2	Station finish, for supply of "C" varnish, for use in the construction of station finish for a portion of the Culver Line Rapid Transit Railroad, known as Route No. 49, sections 1 and 2.....	Chas. E. Roberts & Co.....	Dec. 15, 1916	2,736 00
Nov. 29, 1916	5	2a	Construction of stairways at the southwest corner of Canal street and Broadway, to the Canal street station of that part of the Broadway-Fourth Avenue Rapid Transit Railroad known as section 2a, route No. 5, also for the construction of sidewalks for said station, Borough of Manhattan.....	The Underpinning and Foundation Co.....	Dec. 27, 1916	9,950 00
Nov. 29, 1916	5	2a	Construction of a new track floor for that portion of the Broadway, Fourth Avenue Rapid Transit Railroad, known as Section 2a, Route 5 (Walker to Howard street), Borough of Manhattan.....	The Underpinning and Foundation Co.....	Dec. 27, 1916	3,500 00
Dec. 6, 1916	5	4	Additional for construction of a part of the Broadway-Fourth Avenue Rapid Transit Railroad, known as Section 4, of Route No. 5, under Broadway, from Bleeker street to Union square, Borough of Manhattan.....	Dock Contractor Co.....	Dec. 27, 1916	67,000 00
June 1, 1916	.....	.....	<i>Transfers and rescindments:</i> Track materials, supply of open-hearth rails, Order No. 3. Reapportionment of appropriations authorized August 19, 1915.....	Bethlehem Steel Products Co.....	*	\$21,462,648 54
						\$901,594 87

Aug. 18, 1916	11B	2	Portion chargeable to Contract No. 3, \$901,594.87; portion chargeable to Contract No. 4, \$300,531.63; total, \$1,202,126.50.		
			Rescindment of unexpended balances of appropriations for contract construction, Brooklyn-Fourth Avenue subway, Route 11B, Section 2, authorized July 9, 1914, \$26,000.....	Degnon Contracting Co.....	1,953 83
	11A	1	Rescindment of unexpended balances of appropriations for removal of temporary sewers, Section 11A, 1, authorized March 26, 1915, \$16,233.75.....	Norton & Gorman Contracting Co.....	56 31
	MB 11E 11A	X1 A1 3 5	Rescindment of unexpended balances of appropriations for reconstruction of platform edges, Brooklyn-Fourth Avenue Subway; authorized May 7, 1915, \$5,180.00.	Irving Iron Works.....	1,394 55
Aug. 18, 1916		2	Rescindment of unexpended balances of appropriations for construction of Broadway Route No. 5, Section 2, authorized September 17, 1915 and April 14, 1916....	Degnon Contracting Co.....	11,944 89
	39	2	Rescindment of unexpended balances of appropriations for construction of new Utrecht Avenue Line, Route No. 39, Section 2, authorized December 24, 1913.....	Post & McCord, Inc.....	4,874 97
	39	.....	Rescindment of unexpended balances of appropriations for construction of station finish in New Utrecht Avenue Line, Route No. 39.....	Station Construction Co.....	6,299 83
					\$928,119 28
Total amount of the appropriations authorized by the Board of Estimate and Apportionment supplemental to the authorization of \$60,000,000, dated March 18, 1913, and additional authorizations, aggregating \$69,549,817.15, pursuant to the provisions of Contract No. 4, between the City of New York and the New York Municipal Railway Corporation, and the agreements supplemental thereto and amendatory thereof for the construction and operation of the dual system of rapid transit railroads, from January 1, 1916, to December 31, 1916.....					
					\$20,534,389 26

\* Portion chargeable to Contract No. 3.

## RAPID TRANSIT CONSTRUCTION FUND — BROADWAY SUBWAY

## ROUTE NO. 5

## XLVIIa. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Broadway Subway.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	Issues of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 5 Section 1	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$7,000 00	.....	\$7,000 00	\$36,000 00
	Feb. 15, 1916	2½	Apr. 17, 1916	Feb. 24, 1916	.....	79 31	.....	79 31	
	Feb. 18, 1916	2½	Apr. 18, 1916	Feb. 24, 1916	.....	8,920 69	.....	8,920 69	
	Mar. 13, 1916	2½	May 25, 1916	Mar. 15, 1916	.....	7,000 00	.....	7,000 00	
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	13,000 00	.....	13,000 00	
Route No. 5 Section No. 2	May 6, 1916	3	Dec. 31, 1916	May 9, 1916	.....	201,000 00	.....	\$201,000 00	388,990 05
	May 27, 1916	3	July 1, 1916	May 9, 1916	.....	1,269 16	.....	1,269 16	
	May 6, 1916	3	Dec. 31, 1916	May 9, 1916	.....	186,730 84	.....	186,730 84	
			Rescinded	Aug. 22, 1916	.....	9 95	.....	9 95	
					.....	9,000 00	.....	9,000 00	
Route No. 5 Section No. 2A	Feb. 28, 1916	2½	April 28, 1916	Mar. 13, 1916	.....	9,000 00	.....	9,000 00	53,837 91
	May 6, 1916	3	Dec. 31, 1916	May 20, 1916	.....	3,969 16	.....	3,969 16	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	41,030 84	.....	41,030 84	
			Rescinded	Aug. 22, 1916	.....	168 09	.....	\$54,000 00	
					.....		.....	168 09	
Route No. 5 Section No. 3	Feb. 25, 1916	2½	April 25, 1916	Mar. 2, 1916	.....	283,579 31	.....	\$283,579 31	830,706 4½
	Feb. 28, 1916	2½	April 28, 1916	Mar. 2, 1916	.....	47,420 69	.....	47,420 69	
			Rescinded	Aug. 22, 1916	.....	893 66	.....	\$331,000 00	
					.....		.....	893 66	
					.....		.....	\$331,000 00	

Route No. 5 Section No. 4	Jan. 5, 1916	Mar. 4, 1916	Jan. 19, 1916	.....	17,000 00	.....	\$17,000 00
	Jan. 5, 1916	Mar. 4, 1916	Jan. 19, 1916	.....	24,000 00	.....	24,000 00
	Feb. 28, 1916	Apr. 18, 1916	Feb. 24, 1916	.....	8,000 00	.....	8,000 00
	Mar. 13, 1916	Apr. 28, 1916	Mar. 13, 1916	.....	2,000 00	.....	2,000 00
	Mar. 13, 1916	May 25, 1916	Mar. 15, 1916	.....	11,000 00	.....	11,000 00
	Mar. 20, 1916	June 23, 1916	Mar. 22, 1916	.....	25,000 00	.....	25,000 00
	May 20, 1916	Dec. 31, 1916	May 20, 1916	.....	45,000 00	.....	45,000 00
	June 23, 1916	Dec. 31, 1916	June 23, 1916	.....	9,000 00	.....	9,000 00
	July 21, 1916	Dec. 31, 1916	July 24, 1916	.....	30,000 00	.....	30,000 00
	Aug. 16, 1916	Dec. 31, 1916	Aug. 23, 1916	.....	33,000 00	.....	33,000 00
	Sept. 19, 1916	Dec. 31, 1916	Sept. 19, 1916	.....	6,000 00	.....	6,000 00
	Sept. 19, 1916	Dec. 31, 1916	Sept. 25, 1916	.....	7,000 00	.....	7,000 00
	Oct. 13, 1916	April 16, 1917	Nov. 6, 1916	.....	43,000 00	.....	43,000 00
							200,000 00
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Broadway Subway, from							
January 1, 1916, to December 31, 1916.....							
							\$1,069,534 41

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4**  
**CORPORATE STOCK**  
**XLVIIb. EXTRA WORK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to extra work done and materials furnished in the construction of the Dual System of Rapid Transit Railroads under Contract No. 4.

	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Extra work.....	May 6, 1916	3	Dec. 31, 1916	May 9, 1916	.....	\$3,000 00	.....	\$3,000 00	\$3,000 00
Total amount of proceeds applicable to extra work in the construction of the Dual System of Rapid Transit Railroads under Contract No. 4....									\$3,000 00

## RAPID TRANSIT CONSTRUCTION FUNDS — CONTRACT No. 4 (BROADWAY ROUTE)

## DISBURSEMENTS

## XLVIII. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts for the construction of the Broadway Route, Contract No. 4, from January 1, 1916, to December 31, 1916.

Section	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 5, Sec. 1.	37.....	Dec. 31, 1915	As stated on page 64 of the minutes of the Public Service Commission.....	Frederick L. Cranford, Inc., Assignee.....	\$7,064 45	\$36,065 51
	38.....	Jan. 31, 1916	As stated on page 271 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	8,748 92	
	39.....	Feb. 28, 1916	As stated on page 401 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	7,522 86	
	40.....	Mar. 31, 1916	As stated on page 596 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	12,729 28	
R. 5, Sec. 1A	37.....	Dec. 31, 1915	As stated on page 64 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	\$5,615 94	25,811 97
	38.....	Jan. 31, 1916	As stated on page 229 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	6,090 53	
	39.....	Feb. 28, 1916	As stated on page 434 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	3,164 35	
	40.....	Mar. 31, 1916	As stated on page 596 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	2,869 87	
R. 5, Sec. 2.	41.....	Apr. 30, 1916	As stated on page 747 of said minutes.....	Frederick L. Cranford, Inc., Assignee.....	5,180 85	389,631 28
	44.....	Oct. 31, 1915	As stated on page 635 of said minutes.....	The Degnon Contracting Co.....	\$5,932 26	
	45.....	Nov. 30, 1915	As stated on page 635 of said minutes.....	The Degnon Contracting Co.....	4,479 30	
	Final.....	Apr. 20, 1916	As stated on page 635 of said minutes.....	The Degnon Contracting Co.....	379,210 72	
R. 5, Sec. 2A.	28.....	Dec. 31, 1915	As stated on page 332 of said minutes.....	O'Rourke Engineering Construction Co.....	\$8,274 24	58,981 53
	Final.....	May 11, 1916	As stated on page 746 of said minutes.....	O'Rourke Engineering Construction Co.....	45,807 29	
R. 5, Sec. 3.	.....	.....	As stated on page 308 of said minutes.....	The Underpinning & Foundation Co.....	\$331,421 08	331,421 08
	Final.....	Feb. 24, 1916	As stated on page 308 of said minutes.....	The Underpinning & Foundation Co.....	\$331,421 08	
R. 5, Sec. 4.	28.....	Dec. 31, 1915	As stated on page 63 of said minutes.....	Dock Contractor Co.....	\$16,968 75	32,968 53
	29.....	Jan. 31, 1916	As stated on page 271 of said minutes.....	Dock Contractor Co.....	23,911 58	
	30.....	Feb. 28, 1916	As stated on page 411 of said minutes.....	Dock Contractor Co.....	10,875 64	
	31.....	Mar. 31, 1916	As stated on page 717 of said minutes.....	Dock Contractor Co.....	25,091 00	
R. 5, Sec. 4.	32.....	Apr. 30, 1916	As stated on page 979 of said minutes.....	Dock Contractor Co.....	44,994 69	32,968 53
	33.....	May 31, 1916	As stated on page 1131 of said minutes.....	Dock Contractor Co.....	29,688 30	
	34.....	June 30, 1916	As stated on page 1429 of said minutes.....	Dock Contractor Co.....	32,968 53	
	Final.....	July 31, 1916	As stated on page 1429 of said minutes.....	Dock Contractor Co.....	32,968 53	

RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 4 (BROADWAY ROUTE) — *Concluded*DISBURSEMENTS — *Concluded*XLVIII. CONTRACT CONSTRUCTION — *Concluded*

SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 5, Sec. 4. (concluded)	35 .....	Aug. 31, 1915	As stated on page 1549 of said minutes.	Dock Contractor Co. ....	\$6,154 15	
	36 .....	Oct. 15, 1915	As stated on page 1832 of said minutes.	Dock Contractor Co. ....	34,865 76	
					\$225,146 39	
16-R .....	Jan. 31, 1916	Mar. 2, 1916	As stated on page 352 of said minutes.	Dock Contractor Co. ....	\$7,800 00	
	May 31, 1915	June 22, 1915	As stated on page 1022 of said minutes.	Dock Contractor Co. ....	9,500 00	
	Aug. 31, 1915	Sept. 21, 1915	As stated on page 1596 of said minutes.	Dock Contractor Co. ....	7,000 00	
					\$24,300 00	
3-A, supplementary	Jan. 31, 1916	Mar. 9, 1916	As stated on page 401 of said minutes.	Dock Contractor Co. ....	\$2,057 53	
1-M .....	Oct. 15, 1915	Nov. 1, 1915	As stated on page 1832 of said minutes.	Dock Contractor Co. ....	\$7,821 90	\$259,325 82
Total amount paid to various contractors for work done and materials furnished under the different contracts for the construction of the Broadway route, known as Route No. 5, sections 1, 2, 2-A, 3 and 4, from January 1, 1915, to December 31, 1916.						\$1,093,137 19

# RAPID TRANSIT CONSTRUCTION FUND — BROADWAY-FIFTY-NINTH STREET SUBWAY

ROUTES NOS. 4 & 36

XLIX. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Broadway-Fifty-ninth Street Subway.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
R. No. 4 and 36, Sec. No. 1, 434-A	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	\$26,000 00	.....	\$26,000 00	\$195,000 00
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 26, 1916	.....	4,000 00	.....	4,000 00	
	Jan. 28, 1916	2 1/2	Mar. 6, 1916	Feb. 15, 1916	.....	20,000 00	.....	20,000 00	
	Feb. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 2, 1916	.....	1,000 00	.....	1,000 00	
	Mar. 13, 1916	2 1/2	May 25, 1916	Mar. 22, 1916	.....	3,356 45	.....	3,356 45	
	Mar. 20, 1916	2 1/2	May 25, 1916	Mar. 22, 1916	.....	3,356 45	.....	3,356 45	
	Apr. 7, 1916	2 1/2	Apr. 20, 1916	Mar. 22, 1916	.....	8,643 55	.....	8,643 55	
	May 6, 1916	2 1/2	Apr. 20, 1916	Apr. 18, 1916	.....	8,000 00	.....	8,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 7, 1916	.....	8,000 00	.....	8,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 17, 1916	.....	8,000 00	.....	8,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 25, 1916	.....	8,000 00	.....	8,000 00	
	May 23, 1916	3	Dec. 31, 1916	June 1, 1916	.....	2,000 00	.....	2,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 23, 1916	.....	10,000 00	.....	10,000 00	
	July 21, 1916	3	Dec. 31, 1916	June 23, 1916	.....	1,000 00	.....	1,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	July 27, 1916	.....	16,000 00	.....	16,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	23,000 00	.....	23,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Aug. 28, 1916	.....	3,000 00	.....	3,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	15,000 00	.....	15,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Sept. 25, 1916	.....	2,000 00	.....	2,000 00	
	Oct. 13, 1916	3 1/2	Apr. 16, 1917	Oct. 16, 1916	.....	2,000 00	.....	2,000 00	
	Nov. 1, 1916	3 1/2	Apr. 16, 1917	Nov. 6, 1916	.....	2,000 00	.....	2,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Nov. 22, 1916	.....	5,000 00	.....	5,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 18, 1916	.....	16,000 00	.....	16,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 29, 1916	.....	2,000 00	.....	2,000 00	

## RAPID TRANSIT CONSTRUCTION FUND — BROADWAY-FIFTY-NINTH STREET SUBWAY — Continued

ROUTES NOS. 4 &amp; 36 — Concluded

XLIX. CORPORATE STOCK — Concluded

ROUTE AND SECTION	Date of sale	Interest rate	ISSUE OF STOCK					Total
			Maturity	Date of issue	Date of premium	Amount issued	Amount of premium	Amount of proceeds credited
R. No. 4 and 36, Sec. No. 2, 434-B	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$46,000 00	.....	\$46,000 00
	Jan. 5, 1916	2½	Mar. 6, 1916	Feb. 1, 1916	.....	40,000 00	.....	40,000 00
	Jan. 5, 1916	2½	Mar. 6, 1916	Feb. 15, 1916	.....	55,000 00	.....	55,000 00
	Mar. 8, 1916	2½	May 20, 1916	Mar. 22, 1916	.....	60,000 00	.....	60,000 00
	Mar. 20, 1916	2½	Apr. 20, 1916	Apr. 19, 1916	.....	54,000 00	.....	54,000 00
	Apr. 8, 1916	2½	Dec. 31, 1916	May 20, 1916	.....	20,000 00	.....	20,000 00
	May 20, 1916	3	Dec. 31, 1916	June 27, 1916	.....	62,000 00	.....	62,000 00
	June 23, 1916	3	Dec. 31, 1916	June 27, 1916	.....	63,000 00	.....	63,000 00
	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	118,000 00	.....	118,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	60,000 00	.....	60,000 00
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 16, 1916	.....	62,000 00	.....	62,000 00
	Oct. 1, 1916	3½	Feb. 9, 1917	Oct. 22, 1916	.....	71,000 00	.....	71,000 00
	Nov. 6, 1916	3½	Apr. 2, 1917	Nov. 28, 1916	.....	47,000 00	.....	47,000 00
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 18, 1916	.....	40,000 00	.....	40,000 00
	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	34,000 00	.....	34,000 00
	Feb. 18, 1916	2½	Apr. 18, 1916	Feb. 24, 1916	.....	61,000 00	.....	61,000 00
R. No. 4 and 36, Sec. No. 3, 434-C	Mar. 13, 1916	2½	June 23, 1916	Mar. 15, 1916	.....	90,000 00	.....	90,000 00
	Apr. 17, 1916	3	Dec. 31, 1916	Apr. 21, 1916	.....	142,000 00	.....	142,000 00
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	70,000 00	.....	70,000 00
	May 26, 1916	3	Dec. 31, 1916	June 14, 1916	.....	74,000 00	.....	74,000 00
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	93,000 00	.....	93,000 00
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	101,000 00	.....	101,000 00
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	202,000 00	.....	202,000 00
	Oct. 1, 1916	3½	Feb. 9, 1917	Oct. 23, 1916	.....	76,000 00	.....	76,000 00
	Nov. 6, 1916	3½	Apr. 2, 1917	Nov. 22, 1916	.....	90,000 00	.....	90,000 00
	Nov. 28, 1916	3	June 30, 1917	Dec. 11, 1916	.....	117,000 00	.....	117,000 00
								\$807,000 00
								1,160,000 00



## RAPID TRANSIT CONSTRUCTION FUNDS — CONTRACT NO. 4 (BROADWAY-FIFTY-NINTH STREET ROUTE)

## DISBURSEMENTS

## L. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made to the various contractors, for work done and materials furnished under the provisions of the different contracts for the construction of the Broadway-Fifty-ninth Street Route, from January 1, 1916, to December 31, 1916.

Route	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 4 and 36, Sec. 1	28.....	Dec. 31, 1915	As stated on page 63 of the minutes of the Public Service Commission	E. E. Smith Contracting Co.	\$35,603 86	
	29.....	Jan. 13, 1916	As stated on page 223 of said minutes	E. E. Smith Contracting Co.	19,472 80	
	30.....	Feb. 10, 1916	As stated on page 431 of said minutes	E. E. Smith Contracting Co.	10,597 96	
	31.....	Mar. 16, 1916	As stated on page 596 of said minutes	E. E. Smith Contracting Co.	8,798 92	
	32.....	Apr. 12, 1916	As stated on page 747 of said minutes	E. E. Smith Contracting Co.	7,987 01	
	33.....	May 11, 1916	As stated on page 990 of said minutes	E. E. Smith Contracting Co.	10,146 77	
	34.....	June 15, 1916	As stated on page 1174 of said minutes	E. E. Smith Contracting Co.	12,621 37	
	35.....	July 20, 1916	As stated on page 1372 of said minutes	E. E. Smith Contracting Co.	22,844 64	
	36.....	Aug. 16, 1916	As stated on page 1549 of said minutes	E. E. Smith Contracting Co.	13,907 07	
	37.....	Sept. 14, 1916	As stated on page 1709 of said minutes	E. E. Smith Contracting Co.	7,233 30	
	38.....	Oct. 11, 1916	As stated on page 1909 of said minutes	E. E. Smith Contracting Co.	4,337 68	
	39.....	Nov. 16, 1916	As stated on page 2053 of said minutes	E. E. Smith Contracting Co.	16,672 77	
		Dec. 13, 1916				\$170,164 15
	21-R.....	Dec. 31, 1915	As stated on page 320 of said minutes	E. E. Smith Contracting Co.	\$4,000 00	
	22.....	Feb. 24, 1916	As stated on page 429 of said minutes	E. E. Smith Contracting Co.	2,000 00	
	23.....	Mar. 20, 1916	As stated on page 437 of said minutes	E. E. Smith Contracting Co.	2,000 00	
	24.....	Mar. 16, 1916	As stated on page 615 of said minutes	E. E. Smith Contracting Co.	1,000 00	
	25.....	Apr. 30, 1916	As stated on page 708 of said minutes	E. E. Smith Contracting Co.	1,000 00	
	26.....	May 31, 1916	As stated on page 1029 of said minutes	E. E. Smith Contracting Co.	1,000 00	
	27.....	June 22, 1916	As stated on page 1172 of said minutes	E. E. Smith Contracting Co.	1,000 00	
	28.....	June 30, 1916	As stated on page 1422 of said minutes	E. E. Smith Contracting Co.	1,000 00	
	29.....	July 23, 1916	As stated on page 1442 of said minutes	E. E. Smith Contracting Co.	2,000 00	
	30.....	Aug. 31, 1916	As stated on page 1548 of said minutes	E. E. Smith Contracting Co.	2,000 00	
	31.....	Sept. 30, 1916	As stated on page 1822 of said minutes	E. E. Smith Contracting Co.	1,000 00	
		Nov. 1, 1916	As stated on page 2158 of said minutes	E. E. Smith Contracting Co.	2,000 00	
		Dec. 27, 1916				20,000 00
	2-A supplementary	April 20, 1916	As stated on page 841 of said minutes	E. E. Smith Contracting Co.	\$1,204 94	
	2-A	July 20, 1916	As stated on page 1174 of said minutes	E. E. Smith Contracting Co.	2,869 94	
	4-A	Sept. 21, 1916	As stated on page 1596 of said minutes	E. E. Smith Contracting Co.	1,821 96	
		July 31, 1916				5,386 84

R. 4 and 30, Sec. 3	16. Dec. 31, 1915	Jan. 13, 1916	As stated on page 61 of said minutes	U. S. Realty & Improvement Co.	\$45,575 44
	17. Feb. 10, 1916	Feb. 10, 1916	As stated on page 22 of said minutes	U. S. Realty & Improvement Co.	\$4,587 90
	18. Mar. 16, 1916	Mar. 16, 1916	As stated on page 4 of said minutes	U. S. Realty & Improvement Co.	\$6,281 08
	19. Apr. 13, 1916	Apr. 13, 1916	As stated on page 590 of said minutes	U. S. Realty & Improvement Co.	\$3,623 07
	20. May 11, 1916	May 11, 1916	As stated on page 747 of said minutes	U. S. Realty & Improvement Co.	\$30,330 31
	21. June 15, 1916	June 15, 1916	As stated on page 973 of said minutes	U. S. Realty & Improvement Co.	\$2,023 02
	22. July 13, 1916	July 13, 1916	As stated on page 133 of said minutes	U. S. Realty & Improvement Co.	\$2,783 79
	23. Aug. 11, 1916	Aug. 11, 1916	As stated on page 382 of said minutes	U. S. Realty & Improvement Co.	\$6,164 30
	24. Sept. 14, 1916	Sept. 14, 1916	As stated on page 1545 of said minutes	U. S. Realty & Improvement Co.	\$9,487 79
	25. Oct. 11, 1916	Oct. 11, 1916	As stated on page 1709 of said minutes	U. S. Realty & Improvement Co.	\$1,767 80
	26. Nov. 16, 1916	Nov. 16, 1916	As stated on page 1899 of said minutes	U. S. Realty & Improvement Co.	\$1,177 22
	27. Dec. 13, 1916	Dec. 13, 1916	As stated on page 2057 of said minutes	U. S. Realty & Improvement Co.	\$7,587 44
R. 5	Dec. 31, 1915	Jan. 27, 1916	As stated on page 164 of said minutes	U. S. Realty & Improvement Co.	\$40,000 00
	June 30, 1916	Aug. 11, 1916	As stated on page 1360 of said minutes	U. S. Realty & Improvement Co.	\$2,000 00
	7. Nov. 30, 1916	Dec. 27, 1916	As stated on page 2158 of said minutes	U. S. Realty & Improvement Co.	\$9,000 00
R. 4 and 30, Sec. 3	4. Dec. 31, 1916	Jan. 13, 1916	As stated on page 63 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$33,571 39
	5. Jan. 31, 1916	Feb. 17, 1916	As stated on page 259 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$60,706 51
	6. Feb. 26, 1916	Mar. 9, 1916	As stated on page 411 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$89,687 65
	7. Mar. 31, 1916	Apr. 13, 1916	As stated on page 593 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$42,474 96
	8. Apr. 30, 1916	May 11, 1916	As stated on page 717 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$99,947 48
	9. May 31, 1916	June 9, 1916	As stated on page 918 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$74,426 13
	10. June 30, 1916	July 13, 1916	As stated on page 1131 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$92,471 60
	11. July 31, 1916	Aug. 11, 1916	As stated on page 1261 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$101,597 65
	12. Aug. 31, 1916	Sept. 14, 1916	As stated on page 1549 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$71,591 25
	13. Sept. 30, 1916	Oct. 19, 1916	As stated on page 1742 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$75,910 61
	14. Oct. 31, 1916	Nov. 16, 1916	As stated on page 1897 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$89,711 29
	15. Nov. 30, 1916	Dec. 7, 1916	As stated on page 2032 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$77,442 48
R. 4 and 30, Sec. 4	1-R. July 31, 1916	Aug. 30, 1916	As stated on page 1467 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$130,000 00
	2. Oct. 31, 1916	Dec. 6, 1916	As stated on page 2037 of said minutes	Holbrook, Cabot & Rollins Corporation.	\$40,000 00
	6. Dec. 31, 1916	Jan. 13, 1916	As stated on page 63 of said minutes	Litchfield Construction Co.	\$47,116 96
	7. Jan. 31, 1916	Feb. 17, 1916	As stated on page 270 of said minutes	Litchfield Construction Co.	\$70,799 74
	8. Feb. 29, 1916	Mar. 9, 1916	As stated on page 461 of said minutes	Litchfield Construction Co.	\$89,464 48
	9. Mar. 31, 1916	Apr. 13, 1916	As stated on page 596 of said minutes	Litchfield Construction Co.	\$80,638 56
	10. Apr. 30, 1916	May 11, 1916	As stated on page 747 of said minutes	Litchfield Construction Co.	\$21,441 82
	11. May 31, 1916	June 15, 1916	As stated on page 976 of said minutes	Litchfield Construction Co.	\$51,760 51
	12. June 30, 1916	July 13, 1916	As stated on page 1332 of said minutes	Litchfield Construction Co.	\$45,161 77
	13. July 31, 1916	Aug. 11, 1916	As stated on page 1362 of said minutes	Litchfield Construction Co.	\$36,168 82
	14. Aug. 31, 1916	Sept. 14, 1916	As stated on page 1545 of said minutes	Litchfield Construction Co.	\$46,028 84
	15. Sept. 30, 1916	Oct. 19, 1916	As stated on page 1742 of said minutes	Litchfield Construction Co.	\$58,568 65
	16. Oct. 31, 1916	Nov. 16, 1916	As stated on page 1899 of said minutes	Litchfield Construction Co.	\$83,539 11
	17. Nov. 20, 1916	Dec. 13, 1916	As stated on page 2057 of said minutes	Litchfield Construction Co.	\$43,146 38
					\$32,522 64
					\$979,533 90
					\$170,000 00
					\$685,340 16
					\$141,000 00
					\$40,000 00
					\$39,000 00
					\$33,571 39
					\$60,706 51
					\$89,687 65
					\$42,474 96
					\$99,947 48
					\$74,426 13
					\$92,471 60
					\$101,597 65
					\$71,591 25
					\$75,910 61
					\$89,711 29
					\$77,442 48
					\$130,000 00
					\$40,000 00
					\$47,116 96
					\$70,799 74
					\$89,464 48
					\$80,638 56
					\$21,441 82
					\$51,760 51
					\$45,161 77
					\$36,168 82
					\$46,028 84
					\$58,568 65
					\$83,539 11
					\$43,146 38

RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 4 (BROADWAY-FIFTY-NINTH STREET ROUTE) — *Concluded*DISBURSEMENTS — *Concluded*L. CONTRACT CONSTRUCTION — *Concluded*

Routr	Requisition	To date	Payments authorised	To contractor	Amount	Total
R. 4 and 36, Sec. 5	15.....	Dec. 31, 1915	As stated on page 63 of said minutes.....	The Dagon Contracting Co.....	\$16,706 75	
	16.....	Jan. 31, 1916	As stated on page 228 of said minutes.....	The Dagon Contracting Co.....	17,157 25	
	17.....	Feb. 29, 1916	As stated on page 431 of said minutes.....	The Dagon Contracting Co.....	18,614 07	
	18.....	Mar. 31, 1916	As stated on page 596 of said minutes.....	The Dagon Contracting Co.....	38,157 95	
	19.....	Apr. 30, 1916	As stated on page 747 of said minutes.....	The Dagon Contracting Co.....	26,401 95	
	20.....	May 31, 1916	As stated on page 77 of said minutes.....	The Dagon Contracting Co.....	42,157 96	
	21.....	June 30, 1916	As stated on page 132 of said minutes.....	The Dagon Contracting Co.....	65,863 18	
	22.....	July 31, 1916	As stated on page 1362 of said minutes.....	The Dagon Contracting Co.....	50,979 26	
	23.....	Aug. 31, 1916	As stated on page 1548 of said minutes.....	The Dagon Contracting Co.....	58,100 48	
	24.....	Sept. 30, 1916	As stated on page 1742 of said minutes.....	The Dagon Contracting Co.....	51,886 92	
	25.....	Oct. 31, 1916	As stated on page 1363 of said minutes.....	The Dagon Contracting Co.....	57,251 72	
	26.....	Nov. 30, 1916	As stated on page 2032 of said minutes.....	The Dagon Contracting Co.....	67,823 03	\$305,140 23
	6-R.....	Dec. 31, 1915	As stated on page 121 of said minutes.....	The Dagon Contracting Co.....	\$7,000 00	
	7.....	April 30, 1916	As stated on page 796 of said minutes.....	The Dagon Contracting Co.....	18,000 00	
	8.....	July 31, 1916	As stated on page 1122 of said minutes.....	The Dagon Contracting Co.....	28,000 00	
	9.....	Oct. 31, 1916	As stated on page 1944 of said minutes.....	The Dagon Contracting Co.....	29,000 00	
	2-A, supplementary	Jan. 31, 1916	As stated on page 323 of said minutes.....	The Dagon Contracting Co.....	\$660 70	\$3,000 00
Total amount paid to various contractors for work done and materials furnished under the different contracts for the construction of the Broadway-Fifty-ninth Street route, known as Route No. 4 and 36, from January 1, 1916, to December 31, 1916.....						\$3,371,763 91



## BROOKLYN-MANHATTAN LOOP LINE (MANHATTAN SECTIONS)

## CONSTRUCTION FUNDS

## DISBURSEMENTS

## LII. REAL ESTATE

Statement showing the requisitions made upon the Public Service Commission for the First District, New York, and the payments authorized under the direction of the Public Service Commission to be made for real estate acquired for and in behalf of the City of New York under provisions of the various contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Brooklyn-Manhattan Loop Lines (Manhattan Sections) from January 1, 1916, to December 31, 1916.

DISBURSEMENTS	Amount	Total
<b>SPECIAL SERVICE</b>		
Compensation to experts in examining and appraising value of lands and buildings and attending hearings before the commissioners of appraisal, appointed by the Appellate Division of the Supreme Court, First Judicial District, relative to lands situated, viz.:		
Estate in fee and easements — Acquiring the fee of certain premises and a permanent and perpetual underground right, easement and right-of-way, also a temporary easement in other premises at or near the southeasterly corner of Walker street and Centre street, Borough of Manhattan. (Section 9-0-2).....	\$2,575 00	
Estate in fee — Acquiring the fee of certain premises on the west side of Centre street between White street and Canal street, and on the east side of Centre street between Walker street and Canal street in the Borough of Manhattan. (Section 9-0-2).....	1,000 00	
Estate in fee — Acquiring the fee of certain premises on the westerly side of Centre street between Canal street and Howard street, and on the northeast corner of Canal street and Centre street, and on the northwest corner of Centre street and Lafayette street, in the Borough of Manhattan. (Sections 9-0-1 and 9-0-3).....	1,025 00	
Estate in fee and easements — Acquiring the fee of certain premises, and a permanent and perpetual underground right, easement and right-of-way, also a temporary easement in other premises situated at or near the northeast corner of Broome street and Cleveland place in the Borough of Manhattan. (Section 9-0-4) .....	250 00	
		\$4,850 00
Total amount paid for real estate acquired under provisions of the various contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Brooklyn-Manhattan Loop Lines (Manhattan sections), from January 1, 1916, to December 31, 1916.....	.....	\$4,850 00

**\* RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 3**  
**WHITEHALL-MONTAGUE STREET SUBWAY (Fulton Street Section)**  
**LIIIa. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Whitehall-Montague Street Subway.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 33 Section No. 3	Jan. 5, 1916	2½	Mar. 6, 1916	Jan. 19, 1916	.....	\$35,000 00	.....	\$35,000 00	\$518,000 00
	Feb. 10, 1916	4	July 1, 1916	Feb. 15, 1916	.....	38,000 00	.....	38,000 00	
	Feb. 24, 1916	2½	April 24, 1916	Mar. 22, 1916	.....	41,000 00	.....	41,000 00	
	Apr. 8, 1916	2½	April 20, 1916	Apr. 19, 1916	.....	35,000 00	.....	35,000 00	
	May 1, 1916	3	Dec. 31, 1916	May 17, 1916	.....	36,000 00	.....	36,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	61,000 00	.....	61,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	59,000 00	.....	59,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	43,000 00	.....	43,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	48,000 00	.....	48,000 00	
	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 16, 1916	.....	36,000 00	.....	36,000 00	
	Nov. 1, 1916	3½	Apr. 2, 1917	Nov. 13, 1916	.....	36,000 00	.....	36,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 18, 1916	.....	41,000 00	.....	41,000 00	
Total amount of proceeds applicable to the construction of the Whitehall-Montague Street Subway (Fulton Street Section), from January 1, 1916, to December 31, 1916.....									\$518,000 00

\* See also page 152.

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4**  
**WHITEHALL-MONTAGUE STREET SUBWAY**  
**L.I.R. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Whitehall-Montague Street Subway.

Route and Section	Date of sale	Interest rate	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 33 Section No. 1	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	\$49,000 00	.....	\$49,000 00	\$476,000 00
	Jan. 5, 1916	2 1/2	Mar. 8, 1916	Feb. 15, 1916	.....	44,000 00	.....	44,000 00	
	Mar. 13, 1916	2 1/2	June 23, 1916	Mar. 22, 1916	.....	35,000 00	.....	35,000 00	
	Apr. 8, 1916	2 1/2	April 20, 1916	Apr. 19, 1916	.....	37,000 00	.....	37,000 00	
	May 20, 1916	2 1/2	Dec. 31, 1916	May 20, 1916	.....	28,000 00	.....	28,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 26, 1916	.....	34,000 00	.....	34,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	44,000 00	.....	44,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	41,000 00	.....	41,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	49,000 00	.....	49,000 00	
	Oct. 6, 1916	3	Feb. 9, 1917	Oct. 16, 1916	.....	43,000 00	.....	43,000 00	
	Nov. 1, 1916	3 1/2	April 2, 1917	Nov. 22, 1916	.....	34,000 00	.....	34,000 00	
	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 18, 1916	.....	38,000 00	.....	38,000 00	
Route No. 23 Section No. 2	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	150,245 06	.....	\$150,245 06	\$476,000 00
	Jan. 5, 1916	2 1/2	Mar. 8, 1916	Feb. 15, 1916	.....	117,654 94	.....	117,654 94	
	Mar. 13, 1916	2 1/2	Mar. 8, 1916	Mar. 15, 1916	.....	362,000 00	.....	362,000 00	
	Apr. 8, 1916	2 1/2	Apr. 25, 1916	Mar. 15, 1916	.....	324,579 31	.....	324,579 31	
	May 20, 1916	2 1/2	Apr. 25, 1916	Mar. 15, 1916	.....	9,420 69	.....	9,420 69	
	June 23, 1916	2 1/2	Apr. 20, 1916	Apr. 21, 1916	.....	72,000 00	.....	72,000 00	
	July 21, 1916	2 1/2	Dec. 31, 1916	Apr. 21, 1916	.....	268,000 00	.....	268,000 00	
	Aug. 16, 1916	2 1/2	Dec. 31, 1916	May 20, 1916	.....	171,000 00	.....	171,000 00	
	Sept. 19, 1916	2 1/2	Dec. 31, 1916	June 26, 1916	.....	94,000 00	.....	94,000 00	
	Oct. 6, 1916	2 1/2	Dec. 31, 1916	July 27, 1916	.....	229,000 00	.....	229,000 00	
	Nov. 1, 1916	2 1/2	Dec. 31, 1916	Aug. 17, 1916	.....	148,000 00	.....	148,000 00	
	Dec. 1, 1916	2 1/2	Dec. 31, 1916	Sept. 19, 1916	.....	178,000 00	.....	178,000 00	
	Dec. 1, 1916	2 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	139,000 00	.....	139,000 00	
	Dec. 1, 1916	2 1/2	Mar. 15, 1917	Nov. 18, 1916	.....	176,000 00	.....	176,000 00	
	Dec. 1, 1916	2 1/2	Mar. 15, 1917	Dec. 18, 1916	.....	76,000 00	.....	76,000 00	
									2,452,000 00

Route No. 23 Section No. 3	Jan. 5, 1916	Mar. 6, 1916	Jan. 19, 1916	.....	64,000 00	.....	264,000 00
	Jan. 15, 1916	Mar. 6, 1916	Feb. 15, 1916	.....	106,000 00	.....	106,000 00
	Feb. 15, 1916	Mar. 17, 1916	Feb. 21, 1916	.....	1,000 00	.....	1,000 00
	Mar. 20, 1916	Apr. 17, 1916	Mar. 24, 1916	.....	12,358 45	.....	12,358 45
	Mar. 23, 1916	May 20, 1916	Mar. 24, 1916	.....	61,643 55	.....	61,643 55
	Apr. 8, 1916	Apr. 20, 1916	Apr. 19, 1916	.....	63,000 00	.....	63,000 00
	May 23, 1916	Dec. 31, 1916	May 20, 1916	.....	95,000 00	.....	95,000 00
	June 23, 1916	Dec. 31, 1916	June 24, 1916	.....	109,000 00	.....	109,000 00
	July 21, 1916	Dec. 31, 1916	July 24, 1916	.....	80,000 00	.....	80,000 00
	Aug. 16, 1916	Dec. 31, 1916	Aug. 17, 1916	.....	80,000 00	.....	80,000 00
	Sept. 19, 1916	Dec. 31, 1916	Sept. 19, 1916	.....	86,000 00	.....	86,000 00
	Oct. 6, 1916	Feb. 18, 1917	Oct. 16, 1916	.....	64 66	.....	64 66
	Oct. 13, 1916	Apr. 16, 1917	Nov. 13, 1916	.....	64,933 34	.....	64,933 34
	Nov. 1, 1916	Apr. 12, 1917	Nov. 13, 1916	.....	69,784 66	.....	69,784 66
	Dec. 1, 1916	Mar. 15, 1917	Dec. 18, 1916	.....	7,215 34	.....	7,215 34
	Dec. 6, 1916	Mar. 12, 1917	Dec. 18, 1916	.....	.....	.....	.....
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Whitehall-Montague Street Subway from January 1, 1916, to December 31, 1916.....							
							932,000 00
							\$3,890,000 00

## BROADWAY-FOURTH AVENUE RAPID TRANSIT RAILROAD (WHITEHALL-MONTAGUE STREET ROUTE)

## DISBURSEMENTS

## L.I.V. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for the work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Whitehall-Montague Street Route, from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 33, Sec. 1.	17.	Dec. 31, 1915	Jan. 13, 1916	As stated on page 63 of the minutes of the Public Service Commission.		
	18.	Jan. 31, 1916	Feb. 10, 1916	As stated on page 229 of said minutes.	\$48,334.40	
	19.	Feb. 29, 1916	Mar. 16, 1916	As stated on page 431 of said minutes.	32,023.90	
	20.	Mar. 31, 1916	Apr. 13, 1916	As stated on page 564 of said minutes.	35,308.55	
	21.	Apr. 30, 1916	May 11, 1916	As stated on page 747 of said minutes.	36,558.50	
	22.	May 31, 1916	June 15, 1916	As stated on page 970 of said minutes.	28,715.97	
	23.	June 30, 1916	July 13, 1916	As stated on page 1130 of said minutes.	33,973.78	
	24.	July 31, 1916	Aug. 11, 1916	As stated on page 1331 of said minutes.	43,493.38	
	25.	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1545 of said minutes.	41,439.38	
	26.	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1701 of said minutes.	48,482.75	
	27.	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1837 of said minutes.	43,240.70	
	28.	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2057 of said minutes.	34,159.80	
				Flinn-O'Rourke Co., Inc., Assignee.	38,210.05	
				Flinn-O'Rourke Co., Inc., Assignee.	\$12,000.00	\$464,002.04
	2-R.	Dec. 31, 1915	Feb. 10, 1916	As stated on page 223 of said minutes.		12,000.00
R. 33, Sec. 2.	13.	Dec. 31, 1915	Jan. 13, 1916	As stated on page 63 of said minutes.	\$287,689.72	
	14.	Jan. 31, 1916	Feb. 10, 1916	As stated on page 229 of said minutes.	331,435.81	
	15.	Feb. 29, 1916	Mar. 9, 1916	As stated on page 420 of said minutes.	335,064.70	
	16.	Mar. 16, 1916	Apr. 13, 1916	As stated on page 576 of said minutes.	388,560.31	
	17.	Apr. 30, 1916	May 11, 1916	As stated on page 746 of said minutes.	95,520.00	
	18.	May 31, 1916	June 15, 1916	As stated on page 980 of said minutes.	171,449.86	
	19.	June 30, 1916	July 13, 1916	As stated on page 1332 of said minutes.	228,351.26	
	20.	July 31, 1916	Aug. 11, 1916	As stated on page 1549 of said minutes.	147,861.37	
	21.	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1709 of said minutes.	176,396.10	
	22-A.	Feb. 8, 1916	Oct. 11, 1916	As stated on page 1709 of said minutes.	2,408.75	
				Flinn-O'Rourke Co., Inc., Assignee.		
				Flinn-O'Rourke Co., Inc., Assignee.		
				Flinn-O'Rourke Co., Inc., Assignee.		
				Flinn-O'Rourke Co., Inc., Assignee.		

22	Sept. 1, 1916	Oct. 11, 1916	As stated on page 1702 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	135,906 87
23	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1813 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	116,570 91
24	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2039 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	76,323 42
2-R.	Dec. 31, 1916	Feb. 10, 1916	As stated on page 228 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	2,412,591 78
R. 33, Sec. 3.	Dec. 31, 1915	Feb. 10, 1916	As stated on page 228 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	40,000 00
9	Dec. 31, 1915	Jan. 13, 1916	As stated on page 64 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	\$84,120 24
10	Jan. 31, 1916	Feb. 10, 1916	As stated on page 227 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	78,724 48
11	Feb. 29, 1916	Mar. 16, 1916	As stated on page 43 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	77,106 51
12	Mar. 31, 1916	Apr. 13, 1916	As stated on page 467 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	65,432 06
13	Apr. 30, 1916	May 11, 1916	As stated on page 747 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	67,248 09
14	May 31, 1916	June 15, 1916	As stated on page 980 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	95,631 83
15	June 30, 1916	July 13, 1916	As stated on page 1132 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	108,350 12
16	July 31, 1916	Aug. 11, 1916	As stated on page 1236 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	80,287 66
17	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1540 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	88,119 33
18	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1710 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	67,451 33
19	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1958 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	65,023 23
20	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2059 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	75,894 68
1-R.	Dec. 31, 1915	Feb. 10, 1916	As stated on page 228 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	933,470 95
R. 33, Sec. 3.	Dec. 31, 1915	Feb. 10, 1916	As stated on page 228 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	27,930 00
9	Dec. 31, 1915	Jan. 13, 1916	As stated on page 64 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	\$24,526 29
10	Jan. 31, 1916	Feb. 10, 1916	As stated on page 229 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	42,370 10
11	Feb. 29, 1916	Mar. 16, 1916	As stated on page 431 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	41,518 89
12	Mar. 31, 1916	Apr. 13, 1916	As stated on page 597 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	35,249 29
13	Apr. 30, 1916	May 11, 1916	As stated on page 847 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	36,210 51
14	May 31, 1916	June 15, 1916	As stated on page 980 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	51,494 03
15	June 30, 1916	July 13, 1916	As stated on page 1132 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	58,353 91
16	July 31, 1916	Aug. 11, 1916	As stated on page 1236 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	43,237 20
17	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1543 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	47,418 37
18	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1710 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	36,320 30
19	Oct. 31, 1916	Nov. 9, 1916	As stated on page 1953 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	35,012 40
20	Nov. 30, 1916	Dec. 13, 1916	As stated on page 2059 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	40,866 37
1-R.	Dec. 31, 1915	Feb. 10, 1916	As stated on page 228 of said minutes.	Flinn-O'Rourke Co., Inc., Assignee.	502,638 19
					15,050 00
					\$4,407,702 96

Total amount paid to the contractor for work done and materials furnished under the provisions of the different contracts for the construction of the Whitehall-Montague Street Route, from January 1, 1916, to December 31, 1916.

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4**  
**LV. CANAL STREET SUBWAY**  
**CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Canal Street Subway.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 20, Section No. 2.	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	\$29,000 00	.....	\$29,000 00	\$667,000 00
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 26, 1916	.....	12,000 00	.....	12,000 00	
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Feb. 15, 1916	.....	90,000 00	.....	90,000 00	
	Feb. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 2, 1916	.....	16,000 00	.....	16,000 00	
	Mar. 13, 1916	2 1/2	June 23, 1916	Mar. 15, 1916	.....	55,000 00	.....	55,000 00	
	Mar. 13, 1916	2 1/2	June 23, 1916	Mar. 22, 1916	.....	9,000 00	.....	9,000 00	
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	42,000 00	.....	42,000 00	
	May 6, 1916	3	Dec. 31, 1916	May 6, 1916	.....	8,000 00	.....	8,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	20,000 00	.....	20,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 26, 1916	.....	44,000 00	.....	44,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	57,000 00	.....	57,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	July 27, 1916	.....	24,000 00	.....	24,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	54,000 00	.....	54,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Sept. 19, 1916	.....	46,000 00	.....	46,000 00	
	Nov. 1, 1916	3 1/2	Apr. 2, 1917	Oct. 16, 1916	.....	44,000 00	.....	44,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Nov. 13, 1916	.....	63,000 00	.....	63,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 18, 1916	.....	29,000 00	.....	29,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 29, 1916	.....	25,000 00	.....	25,000 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Canal Street Subway, from January 1, 1916, to December 31, 1916.....									\$667,000 00

## LVI. CONTRACT CONSTRUCTION

Statement allowing the requisitions made upon the Public Service Commission for the First District, and the payments authorized under direction of the Public Service Commission to be made to the various contractors for the work done and materials furnished under the provisions of the different contracts and agreements amendatory thereof and supplemental thereto, for the construction of the Canal Street Route, No. 20, from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 20, Sec. 2	16.....	Dec. 31, 1915	As stated on page 63 of the minutes of the Public Service Commission.....	The Underpinning and Foundation Co.....	\$28,600 59	
	17.....	Jan. 13, 1916	As stated on page 298 of said minutes.....	The Underpinning and Foundation Co.....	\$9,403 51	
	18.....	Feb. 10, 1916	As stated on page 401 of said minutes.....	The Underpinning and Foundation Co.....	\$5,691 49	
	19.....	Mar. 30, 1916	As stated on page 594 of said minutes.....	The Underpinning and Foundation Co.....	41,730 50	
	20.....	Apr. 13, 1916	As stated on page 747 of said minutes.....	The Underpinning and Foundation Co.....	18,703 32	
	21.....	May 31, 1916	As stated on page 979 of said minutes.....	The Underpinning and Foundation Co.....	44,253 51	
	22.....	June 15, 1916	As stated on page 430 of said minutes.....	The Underpinning and Foundation Co.....	56,399 85	
	23.....	June 30, 1916	As stated on page 1362 of said minutes.....	The Underpinning and Foundation Co.....	54,528 48	
	24.....	Aug. 11, 1916	As stated on page 1546 of said minutes.....	The Underpinning and Foundation Co.....	45,839 28	
	25.....	Aug. 31, 1916	As stated on page 1700 of said minutes.....	The Underpinning and Foundation Co.....	43,855 78	
	26.....	Sept. 30, 1916	As stated on page 1843 of said minutes.....	The Underpinning and Foundation Co.....	47,292 71	
	27.....	Nov. 9, 1916	As stated on page 2055 of said minutes.....	The Underpinning and Foundation Co.....	29,513 34	
	28.....	Dec. 13, 1916	As stated on page 2055 of said minutes.....	The Underpinning and Foundation Co.....	\$12,000 00	\$555,602 36
	9-R.....	Dec. 31, 1915	As stated on page 120 of said minutes.....	The Underpinning and Foundation Co.....	16,000 00	
	10-R.....	Jan. 31, 1916	As stated on page 303 of said minutes.....	The Underpinning and Foundation Co.....	8,000 00	
	11-R.....	Feb. 24, 1916	As stated on page 431 of said minutes.....	The Underpinning and Foundation Co.....	8,000 00	
	12-R.....	Mar. 16, 1916	As stated on page 635 of said minutes.....	The Underpinning and Foundation Co.....	20,000 00	
	13-R.....	Apr. 20, 1916	As stated on page 1178 of said minutes.....	The Underpinning and Foundation Co.....	25,000 00	
	14-R.....	June 30, 1916	As stated on page 2136 of said minutes.....	The Underpinning and Foundation Co.....	\$1,496 44	90,000 00
	1-A.....	Apr. 30, 1916	As stated on page 747 of said minutes.....	The Underpinning and Foundation Co.....	\$3,779 87	
	2-A.....	June 30, 1916	As stated on page 1174 of said minutes.....	The Underpinning and Foundation Co.....	16,023 15	
	3-A.....	Oct. 31, 1916	As stated on page 1862 of said minutes.....	The Underpinning and Foundation Co.....		21,299 46
Total amount paid to the various contractors for work done and materials furnished in the construction of the Canal Street Subway, from January 1, 1916, to December 31, 1916.....						\$666,901 82

**BROOKLYN (FOURTH AVENUE) SUBWAY CONSTRUCTION FUNDS**  
**CORPORATE STOCK**

**LVI. CONTRACT CONSTRUCTION**

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Brooklyn (Fourth Avenue) Subway.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
11-B-1.....	Feb. 15, 1916	2 1/2	April 17, 1916	Feb. 24, 1916	.....	\$1,000 00	.....	\$1,000 00	\$27,089 11
	Mar. 13, 1916	2 1/2	May 25, 1916	Mar. 22, 1916	.....	1,000 00	.....	1,000 00	
	Mar. 27, 1916	3	July 1, 1916	April 3, 1916	.....	15,000 00	.....	15,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 7, 1916	.....	11,000 00	.....	11,000 00	
	*	.....	.....	Aug. 26, 1916	.....	980 80	.....	980 80	
11-B-2.....	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	3,000 00	.....	\$3,000 00	16,553 02
	Feb. 15, 1916	2 1/2	April 17, 1916	Feb. 24, 1916	.....	4,000 00	.....	4,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 26, 1916	.....	5,989 16	.....	5,989 16	
	June 23, 1916	3	Dec. 31, 1916	Aug. 26, 1916	.....	4,030 84	.....	4,030 84	
	*	.....	.....	Aug. 1916	.....	446 80	.....	446 80	
Cross-over, De Kalb Ave., 9-C-1.	Mar. 27, 1916	3	July 1, 1916	April 3, 1916	.....	21,000 00	.....	\$21,000 00	23,046 17
	June 23, 1916	3	Dec. 31, 1916	June 26, 1916	.....	4,000 00	.....	4,000 00	
	*	.....	.....	Aug. 26, 1916	.....	1,963 83	.....	1,963 83	
* RECAPSUMENTS.	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 19, 1916	.....	48,000 00	.....	\$48,000 00	48,000 00
* RECAPSUMENTS.	MBX-1, work and materials.....			Aug. 22, 1916	.....	1,084 79	.....	1,084 79	\$114,688 30
	9-C-1, work and materials.....			Aug. 22, 1916	.....	770 18	.....	770 18	
	11-EA-1, work and materials.....			Aug. 22, 1916	.....	405 84	.....	405 84	
	11-A-2, work and materials.....			Aug. 22, 1916	.....	3,314 27	.....	3,314 27	
	11-A-3, work and materials.....			Aug. 22, 1916	.....	3,195 46	.....	3,195 46	
	11-A-4, work and materials.....			Aug. 22, 1916	.....	2,842 30	.....	2,842 30	
	Fourth Avenue, extra work and materials.....			Aug. 22, 1916	.....	5,770 50	.....	5,770 50	
	MBX-1, extra work and materials.....			Aug. 22, 1916	.....	228 16	.....	228 16	
	Fourth Avenue, maintenance.....			Aug. 22, 1916	.....	82 49	.....	82 49	
	11-EA-1, temporary sewers.....			Aug. 22, 1916	.....	66 31	.....	66 31	
	Fourth Avenue, platform edge reconstruction.....			Aug. 22, 1916	.....	214 56	.....	214 56	
Net amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Brooklyn (Fourth Avenue) Subway, from January 1, 1916, to December 31, 1916.....									\$94,703 40

\* The statement of proceeds from the sale of corporate stock made on various prior dates were included in August, 1916, and held available for payments on said bonds.

# BROOKLYN (FOURTH AVENUE) SUBWAY CONSTRUCTION FUNDS DISBURSEMENTS

## LVIII. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts for the construction of the Brooklyn (Fourth Avenue) Subway, from January 1, 1916, to December 31, 1916.

Section	Requisition	To date	Payments authorized	To contractor	Amount	Total
11-B-1.	34.	Feb. 29, 1916	As stated on page 481 of the minutes of the Public Service Commission.	Degnon Contracting Co.	\$15,004 65	
	Final	April 30, 1916	As stated on page 481 of said minutes.	Degnon Contracting Co.	10,828 94	
	5, supplementary	Jan. 31, 1916	As stated on page 481 of said minutes.	Degnon Contracting Co.	1,373 53	
	6, supplementary	Feb. 29, 1916	As stated on page 482 of said minutes.	Degnon Contracting Co.	781 06	\$27,985 18
	37.	Dec. 31, 1915	As stated on page 63 of said minutes.	Degnon Contracting Co.	\$2,395 80	
11-B-2.	38.	Feb. 29, 1916	As stated on page 64 of said minutes.	Degnon Contracting Co.	6,515 80	
	Final	April 30, 1916	As stated on page 64 of said minutes.	Degnon Contracting Co.	21,973 44	
	4, supplementary	Jan. 31, 1916	As stated on page 67 of said minutes.	Degnon Contracting Co.	4,073 10	
	5, supplementary	Feb. 29, 1916	As stated on page 401 of said minutes.	Degnon Contracting Co.	488 33	37,446 47
	Final	April 30, 1916	As stated on page 979 of said minutes.	Degnon Contracting Co.	\$2,878 54	2,878 54
Regarding Bos Beach Railroad C-C-1. Cross-over at DeKalb Ave.	10.	Dec. 31, 1915	As stated on page 31 of said minutes.	Samuel Beskin.	\$171 54	
	11.	Jan. 31, 1916	As stated on page 203 of said minutes.	Samuel Beskin.	3,097 38	
	12.	Feb. 29, 1916	As stated on page 449 of said minutes.	Samuel Beskin.	4,723 55	
	13.	Mar. 31, 1916	As stated on page 634 of said minutes.	Samuel Beskin.	2,486 01	
	14.	April 30, 1916	As stated on page 741 of said minutes.	Samuel Beskin.	638 19	
	15.	July 31, 1916	As stated on page 1372 of said minutes.	Samuel Beskin.	946 15	
	16.	Aug. 31, 1916	As stated on page 1627 of said minutes.	Samuel Beskin.	1,228 22	
	Final	Nov. 30, 1916	As stated on page 2123 of said minutes.	Samuel Beskin.	15,374 95	28,665 99
	3, supplementary.	Dec. 31, 1915	As stated on page 120 of said minutes.	Samuel Beskin.	\$1,571 84	
	4, supplementary.	Jan. 31, 1916	As stated on page 269 of said minutes.	Samuel Beskin.	1,617 58	
	5, supplementary.	Feb. 29, 1916	As stated on page 450 of said minutes.	Samuel Beskin.	584 06	
	6, supplementary.	Mar. 31, 1916	As stated on page 634 of said minutes.	Samuel Beskin.	304 17	4,017 65
Total amount paid to the various contractors for work done and materials furnished under the different contracts for the construction of the Brooklyn (Fourth Avenue) Subway, from January 1, 1916, to December 31, 1916.						\$101,013 83

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4

## NEW UTRECHT AVENUE ELEVATED RAILROAD

## LIX. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the New Utrecht Avenue Elevated Line.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 39, Section No. 2, station finish	Feb. 28, 1916	2½	April 28, 1916	Mar. 15, 1916	.....	\$7,000 00	.....	\$7,000 00	\$220,000 00
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	6,000 00	.....	6,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	16,000 00	.....	16,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 14, 1916	.....	32,000 00	.....	32,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 24, 1916	.....	1,969 16	.....	1,969 16	
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	35,030 84	.....	35,030 84	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	28,000 00	.....	28,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	24,000 00	.....	24,000 00	
	Oct. 6, 1916	3½	Feb. 9, 1917	Oct. 16, 1916	.....	16,000 00	.....	16,000 00	
	Nov. 1, 1917	3½	April 2, 1917	Nov. 22, 1916	.....	27,000 00	.....	27,000 00	
	Dec. 1, 1916	3½	Mar. 15, 1917	Dec. 18, 1916	.....	22,000 00	.....	22,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 26, 1916	.....	5,000 00	.....	5,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	234,000 00	.....	\$234,000 00	
Route No. 39, Section No. 2, construction	.....	.....	Rescinded ...	Aug. 31, 1916	.....	149 97	.....	149 97	233,850 03
	Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the New Utrecht Avenue Elevated Railroad, from January 1, 1916, to December 31, 1916, .....								\$463,850 03

## BROADWAY-FOURTH AVENUE RAPID TRANSIT RAILROAD (NEW UTRECHT AVENUE ROUTE)

## DISBURSEMENTS

## LX. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for the work done and materials furnished under the provisions of the different contracts and the agreement amendatory thereof and supplemental thereto for the construction of the New Utrecht Avenue Route, from January 1, 1916, to December 31, 1916.

Route	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 39, Sec. 2.	Final .....	April 30, 1916	May 11, 1916	As stated on page 746 of the minutes of the Public Service Commission .....	\$234,515 68	\$234,515 68
Total payments to the various contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Broadway-Fourth Avenue branch of the Broadway-Fourth Avenue Rapid Transit Railroad, from January 1, 1916, to December 31, 1916 .....					\$234,515 68	\$234,515 68

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4**  
**CULVER LINE - GRAVESEND AVENUE ELEVATED RAILROAD**

**LXI. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Gravesend Avenue Elevated Railroad.

Route and Section	Date of sale	Interest rate	Maturity	Issue of Stock					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Route No. 49, Section No. 1.	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	\$7,000 00	.....	\$7,000 00	\$332,000 00
	Jan. 6, 1916	2 1/2	Mar. 8, 1916	Feb. 15, 1916	.....	6,000 00	.....	6,000 00	
	Jan. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 15, 1916	.....	1,000 00	.....	1,000 00	
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	16,000 00	.....	16,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	17,000 00	.....	17,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 14, 1916	.....	12,000 00	.....	12,000 00	
	June 23, 1916	3	Dec. 31, 1916	June 19, 1916	.....	11,000 00	.....	11,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 17, 1916	.....	44,000 00	.....	44,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	18,000 00	.....	18,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	40,000 00	.....	40,000 00	
	Nov. 1, 1916	3 1/2	Apr. 2, 1917	Nov. 22, 1916	.....	63,000 00	.....	63,000 00	
	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 18, 1916	.....	75,000 00	.....	75,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 26, 1916	.....	22,000 00	.....	22,000 00	
Route No. 49, Section No. 2.	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 19, 1916	.....	32,000 00	.....	\$32,000 00	426,000 00
	Jan. 6, 1916	2 1/2	Mar. 8, 1916	Feb. 15, 1916	.....	23,000 00	.....	23,000 00	
	Jan. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 15, 1916	.....	47,000 00	.....	47,000 00	
	Apr. 8, 1916	2 1/2	Apr. 20, 1916	Apr. 19, 1916	.....	44,000 00	.....	44,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 17, 1916	.....	5,000 00	.....	5,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 1, 1916	.....	30,000 00	.....	30,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 14, 1916	.....	40,000 00	.....	40,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 24, 1916	.....	76,000 00	.....	76,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	51,000 00	.....	51,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	16,000 00	.....	16,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 16, 1916	.....	34,000 00	.....	34,000 00	
	Oct. 13, 1916	3 1/2	Apr. 2, 1917	Nov. 22, 1916	.....	15,000 00	.....	15,000 00	
	Nov. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 18, 1916	.....	8,000 00	.....	8,000 00	
	Dec. 1, 1916	3 1/2	Mar. 12, 1917	Dec. 26, 1916	.....	6,000 00	.....	6,000 00	
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Culver Line (Gravesend Avenue, Route No. 49), from January 1, 1916, to December 31, 1916.									\$758,000 00

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 4 — CULVER LINE (GRAVESEND AVENUE, ROUTE NO. 49)

## LXII. DISBURSEMENTS

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for the work done and materials furnished under the provisions of the different contracts and the agreements amendatory thereof and supplemental thereto for the construction of the Culver Line (Gravesend Avenue, Route No. 49), under the provisions of Contract No. 4, from January 1, 1916, to December 31, 1916.

Route	Requisition	To date	Payments authorized	To contractor	Amount	Total	
R. 49, Sec. 1.	2.....	Dec. 31, 1915	As stated on page 63 of the minutes of the Public Service Commission.....	Port & McCord, Inc.	\$6,908 80	\$331,628 27	
	3.....	Jan. 31, 1916	As stated on page 228 of said minutes.....	Port & McCord, Inc.	5,530 10		
	4.....	Feb. 29, 1916	As stated on page 401 of said minutes.....	Port & McCord, Inc.	1,786 70		
	5.....	Mar. 31, 1916	As stated on page 596 of said minutes.....	Port & McCord, Inc.	16,028 75		
	6.....	Apr. 30, 1916	As stated on page 746 of said minutes.....	Port & McCord, Inc.	16,739 90		
	7.....	May 31, 1916	As stated on page 937 of said minutes.....	Port & McCord, Inc.	12,104 00		
	8.....	June 30, 1916	As stated on page 1130 of said minutes.....	Port & McCord, Inc.	11,070 40		
	9.....	July 31, 1916	As stated on page 1300 of said minutes.....	Port & McCord, Inc.	44,416 75		
	10.....	Aug. 31, 1916	As stated on page 1547 of said minutes.....	Port & McCord, Inc.	17,102 85		
	11.....	Sept. 30, 1916	As stated on page 1703 of said minutes.....	Port & McCord, Inc.	40,600 25		
	12.....	Oct. 31, 1916	As stated on page 1897 of said minutes.....	Port & McCord, Inc.	62,611 85		
	13.....	Nov. 30, 1916	As stated on page 2037 of said minutes.....	Port & McCord, Inc.	74,888 40		
	14.....	Nov. 30, 1916	As stated on page 2119 of said minutes.....	Port & McCord, Inc.	21,841 52		
	R. 49, Sec. 2.	5.....	Dec. 31, 1915	As stated on page 64 of said minutes.....	Oscar Daniels Co.		\$31,248 68
6.....		Jan. 31, 1916	As stated on page 228 of said minutes.....	Oscar Daniels Co.	27,686 20		
7.....		Feb. 29, 1916	As stated on page 401 of said minutes.....	Oscar Daniels Co.	47,496 13		
8.....		Mar. 31, 1916	As stated on page 596 of said minutes.....	Oscar Daniels Co.	43,900 80		
9.....		Apr. 30, 1916	As stated on page 746 of said minutes.....	Oscar Daniels Co.	5,110 80		
10.....		May 31, 1916	As stated on page 938 of said minutes.....	Oscar Daniels Co.	40,368 71		
11.....		June 30, 1916	As stated on page 1130 of said minutes.....	Oscar Daniels Co.	76,108 11		
12.....		July 31, 1916	As stated on page 1300 of said minutes.....	Oscar Daniels Co.	30,748 95		
13.....		Aug. 31, 1916	As stated on page 1547 of said minutes.....	Oscar Daniels Co.	15,881 70		
14.....		Sept. 30, 1916	As stated on page 1703 of said minutes.....	Oscar Daniels Co.	33,497 11		
15.....		Oct. 31, 1916	As stated on page 1897 of said minutes.....	Oscar Daniels Co.	8,216 48		
16.....		Nov. 30, 1916	As stated on page 2057 of said minutes.....	Oscar Daniels Co.	5,566 05		
1-R.....		April 30, 1916	As stated on page 880 of said minutes.....	Oscar Daniels Co.	\$20,000 00	65,000 00	
2.....		June 30, 1916	As stated on page 1380 of said minutes.....	Oscar Daniels Co.	20,000 00		
3.....		Sept. 30, 1916	As stated on page 1754 of said minutes.....	Oscar Daniels Co.	15,000 00		
Total payments to the various contractors for work done and materials furnished under the different contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Culver Line (Gravesend Avenue, Route No. 49), from January 1, 1916, to December 31, 1916.....							
						\$757,457 97	

## RAPID TRANSIT CONSTRUCTION FUNDS — CONTRACT No. 4

## QUEENS LINES

## LXIII. CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the railroad under Contract No. 4, in the Borough of Queens, including the construction of the Blackwell's Island Tunnel.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Routes No. 36 and 37, Section No. 1.	*Reapportioned from	contract No. 3							
	Mar. 27, 1916	3	July 1, 1916	Feb. 28, 1916	.....	\$390,087 29	.....	\$390,087 29	
	April 8, 1916	2 1/2	April 30, 1916	April 8, 1916	.....	40,000 00	.....	40,000 00	
	May 6, 1916	3	Dec. 31, 1916	April 19, 1916	.....	24,000 00	.....	24,000 00	
	May 23, 1916	3	Dec. 31, 1916	May 19, 1916	.....	1,000 00	.....	1,000 00	
	June 23, 1916	3	Dec. 31, 1916	May 17, 1916	.....	10,000 00	.....	10,000 00	
	July 21, 1916	3	Dec. 31, 1916	May 21, 1916	.....	3,000 00	.....	3,000 00	
	Aug. 1, 1916	3	Dec. 31, 1916	June 23, 1916	.....	2,000 00	.....	2,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	July 27, 1916	.....	7,000 00	.....	7,000 00	
	Oct. 1, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	7,000 00	.....	7,000 00	
	Oct. 13, 1916	3 1/2	Dec. 31, 1916	Aug. 17, 1916	.....	5,000 00	.....	5,000 00	
	Nov. 1, 1916	3 1/2	Feb. 9, 1917	Sept. 16, 1916	.....	4,000 00	.....	4,000 00	
	Dec. 6, 1916	3 1/2	April 16, 1917	Oct. 26, 1916	.....	1,000 00	.....	1,000 00	
			Mar. 12, 1917	Nov. 22, 1916	.....	2,000 00	.....	2,000 00	
				Dec. 18, 1916	.....	2,000 00	.....	2,000 00	\$504,087 29
Route No. 61, Blackwell's Island tunnel.	Nov. 1, 1916	3 1/2	April 2, 1917	(Blackwell's Island Tunnel, Route 61)					
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Nov. 13, 1916	.....	38,000 00	.....	38,000 00	
				Dec. 18, 1916	.....	83,000 00	.....	83,000 00	121,000 00
Total amount of proceeds from sale of corporate stock and corporate stock notes applied to the construction of the railroad under Contract No. 4, in the Borough of Queens, and including the construction of the Blackwell's Island Tunnel, from January 1, 1916, to December 31, 1916....									\$925,087 29

\* Various allotments from proceeds of corporate stock and corporate stock notes were reapportioned between Contract No. 3, and Contract No. 4.

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 4 (BROADWAY-FOURTH AVENUE LINE)

## DISBURSEMENTS

## LXIV. CONTRACT CONSTRUCTION — BLACKWELL'S ISLAND TUNNEL, ROUTE 61

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors, for work done and materials furnished under the provisions of the contract for the construction of the Blackwell's Island Tunnel Route No. 61, from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 61.....	1.....	Oct. 31, 1916	As stated on page 1883 of the minutes of the Public Service Commission.....	P. McGovern & Co.....	\$37,248 20	
	2.....	Nov. 30, 1916	As stated on page 2203 of said minutes.....	P. McGovern & Co.....	83,380 50	\$120,638 70
Total amount paid to the contractor for work done and material furnished for the construction of the Blackwell's Island Tunnel, Route 61, a part of the Broadway-Fourth Avenue line, from January 1, 1916, to December 31, 1916.....					\$120,638 70	

# RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 4 — (BROADWAY-FOURTH AVENUE LINE) DISBURSEMENTS

## LXV. CONTRACT CONSTRUCTION — PORTION OF ROUTES 36-37 AND 50

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the contractor for work done and materials furnished under the provisions of the contract for the construction of the Queens-Astoria, Woodside and Corona, Routes 36-37 and 50, for portion of railroad for operation under Contract No. 4, from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 36 and 37. Sec. 1.	*Estimates Nos. 1 to 21, 1-R, 2-R, re-appropriated between Contracts Nos. 3 and No. 4.					
	22	Jan. 31, 1916	As stated on page 422 of the minutes of the Public Service Commission.	The Square & Triest Co.	\$374, 142 72	
	23	Feb. 29, 1916	As stated on page 382 of said minutes.	The Square & Triest Co.	28, 706 24	
	24	Mar. 31, 1916	As stated on page 480 of said minutes.	The Square & Triest Co.	10, 269 67	
	25	Apr. 13, 1916	As stated on page 595 of said minutes.	The Square & Triest Co.	24, 372 25	
	26	May 11, 1916	As stated on page 747 of said minutes.	The Square & Triest Co.	6, 280 03	
	27	June 20, 1916	As stated on page 930 of said minutes.	The Square & Triest Co.	2, 521 48	
	28	July 31, 1916	As stated on page 1170 of said minutes.	The Square & Triest Co.	6, 915 84	
	29	Aug. 11, 1916	As stated on page 1342 of said minutes.	The Square & Triest Co.	5, 081 23	
	30	Sept. 30, 1916	As stated on page 1546 of said minutes.	The Square & Triest Co.	2, 857 40	
	31	Oct. 31, 1916	As stated on page 1709 of said minutes.	The Square & Triest Co.	2, 094 92	
	32	Nov. 15, 1916	As stated on page 1908 of said minutes.	The Square & Triest Co.	2, 067 44	
	Supplemental 1 to 32, re-appropriated between Contracts No. 3 and No. 4.	Nov. 30, 1916	As stated on page 2037 of said minutes.	The Square & Triest Co.	1, 274 64	\$471, 510 86
	10	Jan. 31, 1916	As stated on page 422 of said minutes.	The Square & Triest Co.	\$15, 944 87	
	11	Feb. 29, 1916	As stated on page 382 of said minutes.	The Square & Triest Co.	184 78	
	12	Mar. 31, 1916	As stated on page 480 of said minutes.	The Square & Triest Co.	8, 787 93	
	13	Apr. 30, 1916	As stated on page 595 of said minutes.	The Square & Triest Co.	2, 786 80	
	14	May 31, 1916	As stated on page 747 of said minutes.	The Square & Triest Co.	3, 170 80	
	15	June 30, 1916	As stated on page 930 of said minutes.	The Square & Triest Co.	6, 173 43	
	16	July 31, 1916	As stated on page 1170 of said minutes.	The Square & Triest Co.	5, 024 80	
	17	Aug. 31, 1916	As stated on page 1342 of said minutes.	The Square & Triest Co.	1, 165 01	
	18	Sept. 30, 1916	As stated on page 1546 of said minutes.	The Square & Triest Co.	1, 172 37	31, 724 98
	19	Oct. 31, 1916	As stated on page 1709 of said minutes.	The Square & Triest Co.		
Total amount paid to the contractor for work done and materials furnished for the construction of the railroad under Contract No. 4, for a portion of the Queens-Astoria, Woodside and Corona Routes Nos. 36-37, and 50, from January 1, 1916, to December 31, 1916.						\$503, 235 84

\*The payments heretofore charged to Contract No. 3, are re-appropriated as follows: Estimates Nos. 1 to 31, 1-R, 2-R, and supplementals 1 to 9, inclusive; portion chargeable to Contract No. 3, \$476,773.98; portion chargeable to Contract No. 4, \$300,087.29, total, \$866,860.97.

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4**  
**FOURTEENTH STREET-EASTERN LINE**

**LXVI. CORPORATE STOCK**

Statement showing the issue of corporate stock of the City of New York, from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the construction of the Fourteenth Street-Eastern Line.

ROUTE AND SECTION	ISSUE OF STOCK					Maturity	Interest rate				
	Date of sale	Interest rate	Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	Total			
Route No. 8, Section No. 1	Nov. 1, 1916 Nov. 28, 1916	3½ 3	Nov. 13, 1916 Dec. 11, 1916	..... .....	\$2,000 00 9,000 00	..... .....	\$2,000 00 9,000 00	\$11,000 00			
Route No. 8, Section No. 2	Nov. 1, 1916 Nov. 28, 1916	3½ 3	Nov. 13, 1916 Dec. 11, 1916	..... .....	25,000 00 4,000 00	..... .....	\$25,000 00 4,000 00	29,000 00			
Route No. 8, Section No. 3	July 21, 1916 Aug. 16, 1916 Sept. 19, 1916 Oct. 6, 1916 Nov. 1, 1916 Dec. 6, 1916	3 3 3½ 3½ 3½ 3½	July 24, 1916 Aug. 17, 1916 Sept. 19, 1916 Oct. 16, 1916 Nov. 13, 1916 Dec. 18, 1916	..... ..... ..... ..... ..... .....	23,000 00 25,000 00 20,000 00 38,000 00 89,000 00 159,000 00	..... ..... ..... ..... ..... .....	\$23,000 00 25,000 00 20,000 00 38,000 00 89,000 00 159,000 00	354,000 00			
Route No. 8, Section No. 4	Nov. 1, 1916 Dec. 6, 1916	3½ 3½	Nov. 22, 1916 Dec. 18, 1916	..... .....	8,000 00 4,000 00	..... .....	\$8,000 00 4,000 00	12,000 00			
Route No. 8, Section No. 5	Nov. 1, 1916 Dec. 6, 1916	3½ 3½	Nov. 22, 1916 Dec. 18, 1916	..... .....	25,000 00 37,000 00	..... .....	\$25,000 00 37,000 00	62,000 00			
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the construction of the Fourteenth Street-Eastern Line, from January 1, 1916, to December 31, 1916.....									\$468,000 00		

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4

## FOURTEENTH STREET — EASTERN LINE

## LXVII. CONTRACT CONSTRUCTION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the Public Service Commission to be made to the various contractors for work done and materials furnished under the provisions of the different contracts for the construction of the Fourteenth Street-Eastern Line from January 1, 1916, to December 31, 1916.

Section	Requisition	To date	Payments authorized	To contractor	Amount	Total
No. 1.	1.	Oct. 31, 1916	As stated on page 1397 of the minutes of the Public Service Commission.	Booth & Flinn, Ltd.	\$1,999 20	\$10,618 20
	2.	Nov. 30, 1916	As stated on page 1077 of said minutes.	Booth & Flinn, Ltd.	8,619 00	
No. 2.	1.	Oct. 31, 1916	As stated on page 1813 of said minutes.	Degnon Contracting Co.	\$24,828 07	28,943 77
	2.	Nov. 30, 1916	As stated on page 1077 of said minutes.	Degnon Contracting Co.	4,115 70	
No. 3.	1.	June 30, 1916	As stated on page 1131 of said minutes.	Booth & Flinn, Ltd.	\$22,095 00	363,508 08
	2.	July 31, 1916	As stated on page 1232 of said minutes.	Booth & Flinn, Ltd.	25,672 50	
	3.	Aug. 31, 1916	As stated on page 1348 of said minutes.	Booth & Flinn, Ltd.	19,892 03	
	4.	Sept. 30, 1916	As stated on page 1709 of said minutes.	Booth & Flinn, Ltd.	37,744 30	
	5.	Oct. 31, 1916	As stated on page 1923 of said minutes.	Booth & Flinn, Ltd.	89,320 88	
	6.	Nov. 30, 1916	As stated on page 1077 of said minutes.	Booth & Flinn, Ltd.	158,973 80	
No. 4.	1.	Oct. 31, 1916	As stated on page 1390 of said minutes.	Mason & Hanger Co., Inc.	\$7,699 30	11,721 80
	2.	Nov. 30, 1916	As stated on page 1038 of said minutes.	Mason & Hanger Co., Inc.	4,022 50	
No. 5.	1.	Oct. 31, 1916	As stated on page 1893 of said minutes.	MacArthur Box Co.	\$21,412 00	61,985 40
	2.	Nov. 30, 1916	As stated on page 1038 of said minutes.	MacArthur Box Co.	37,573 40	
Total amount paid to the various contractors for work done and materials furnished for the construction of the Fourteenth Street-Eastern Line from January 1, 1916, to December 31, 1916.					\$466,777 25	

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4

## CORPORATE STOCK

## LXVIII. STATION FINISH

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the completion of construction and station finish of parts of the railroad, pursuant to Contract No. 4.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Station finish, Route No. 11-B, Sections Nos 1-2 45th st. to 86th st., Brooklyn	Dec. 24, 1915	2½	Mar. 8, 1916	Jan. 11, 1916	.....	\$5,000 00	.....	\$5,000 00	
	Mar. 13, 1916	2½	May 25, 1916	Mar. 22, 1916	.....	1,000 00	.....	1,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 7, 1916 Aug. 26, 1916	.....	29,000 00 168 14	.....	29,000 00 168 14	
Completion of Construction and Station finish Nassau St. to 45th St. Brooklyn	Dec. 24, 1915	2½	Mar. 8, 1916	Jan. 19, 1916	.....	3,000 00	.....	\$3,000 00	
	Feb. 28, 1916	2½	April 28, 1916	Mar. 13, 1916	.....	2,000 00	.....	2,000 00	
	April 8, 1916	2½	April 20, 1916	April 19, 1916	.....	3,000 00	.....	3,000 00	\$34,833 86
Route No. 5 Sections No. 1-4 Station finish	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 2, 1916	.....	5,676 25	.....	5,676 25	
	May 29, 1916	3	Dec. 31, 1916	June 14, 1916	.....	11,000 00	.....	\$11,000 00	
	July 21, 1916	3	Dec. 31, 1916	July 27, 1916	.....	17,000 00	.....	17,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	23,000 00	.....	23,000 00	
	Sept. 19, 1916	3	Dec. 31, 1916	Sept. 19, 1916	.....	23,000 00	.....	23,000 00	
	Oct. 13, 1916	3½	April 16, 1917	Oct. 23, 1916	.....	21,000 00	.....	21,000 00	
	Nov. 1, 1916	3½	April 2, 1917	Nov. 22, 1916	.....	24,000 00	.....	24,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 18, 1916	.....	18,000 00	.....	18,000 00	137,000 00

RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4 — *Continued*CORPORATE STOCK — *Continued*LXVIII. STATION FINISH — *Concluded*

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Routes Nos. 4 and 36 Station finish 23d St. and 28th St. Queens Station finish Tunnel connection Routes Nos. 36 and 37	Dec. 6, 1916	3½	Mar. 2, 1917	Dec. 26, 1916	.....	\$3,000 00	.....	\$3,000 00	\$3,000 00
	Jan. 5, 1916	2½	Mar. 6, 1916	Feb. 9, 1916	.....	1,000 00	.....	\$1,000 00	
	Mar. 27, 1916	3	July 1, 1916	April 7, 1916	.....	3,000 00	.....	3,000 00	
	May 6, 1916	3	Dec. 31, 1916	May 9, 1916	.....	2,000 00	.....	2,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 1, 1916	.....	2,000 00	.....	2,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 7, 1916	.....	2,000 00	.....	2,000 00	
	July 21, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	5,000 00	.....	5,000 00	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 7, 1916	.....	5,000 00	.....	5,000 00	
	Sept. 29, 1916	3	Dec. 31, 1916	Oct. 2, 1916	.....	5,000 00	.....	5,000 00	
	Oct. 13, 1916	3½	April 16, 1917	Nov. 6, 1916	.....	3,000 00	.....	3,000 00	
	Nov. 23, 1916	3	June 30, 1917	Dec. 11, 1916	.....	964 66	.....	964 66	
	Dec. 1, 1916	3½	Mar. 15, 1917	Dec. 11, 1916	.....	2,035 34	.....	2,035 34	
	June 23, 1916	3	Dec. 31, 1916	July 12, 1916	.....	1,000 00	.....	\$1,000 00	31,000 00
	Dec. 1, 1916	3½	Mar. 15, 1917	Dec. 18, 1916	.....	2,180 00	.....	\$2,180 00	1,000 00
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the completion of construction and station finish of the railroad under Contract No. 4, from January 1, 1916, to December 31, 1916 .....									\$222,660 11

**RAPID TRANSIT CONSTRUCTION FUND — CONTRACT NO. 4—Continued**  
**CORPORATE STOCK—Continued**

**LXIX. REAL ESTATE AND INTEREST THEREIN**

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the acquirement of real estate and interest therein in the construction of the Dual System of Rapid Transit Railroads under Contract No. 4.

	Issues of Stock						Total		
	Date of sale	Interest rate	Maturity	Date of issue	Rate of premium	Amount issued		Amount of premium	Amount of proceeds credited
Real estate	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Feb. 7, 1916	.....	\$1,000 00	.....	\$1,000 00	\$692,000 00
	Mar. 13, 1916	2 1/2	May 25, 1916	Mar. 22, 1916	.....	1,000 00	.....	1,000 00	
	April 8, 1916	2 1/2	April 20, 1916	April 11, 1916	.....	28,000 00	.....	28,000 00	
	May 4, 1916	3	Dec. 31, 1916	May 15, 1916	.....	40,000 00	.....	40,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 1, 1916	.....	4,000 00	.....	4,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 14, 1916	.....	58,000 00	.....	58,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 12, 1916	.....	4,000 00	.....	4,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 19, 1916	.....	24,000 00	.....	24,000 00	
	July 21, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	28,000 00	.....	28,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Aug. 21, 1916	.....	2,000 00	.....	2,000 00	
	Aug. 16, 1916	3	Dec. 31, 1916	Sept. 2, 1916	.....	18,620 81	.....	18,620 81	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 2, 1916	.....	388,373 03	.....	388,373 03	
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 11, 1916	.....	30,000 00	.....	30,000 00	
	Sept. 9, 1916	3	Dec. 31, 1916	Sept. 9, 1916	.....	27,000 00	.....	27,000 00	
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 23, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 13, 1916	3 1/2	April 16, 1917	Nov. 2, 1916	.....	1,000 00	.....	1,000 00	
	Oct. 13, 1916	3 1/2	April 16, 1917	Nov. 13, 1916	.....	24,000 00	.....	24,000 00	
	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 13, 1916	.....	2,000 00	.....	2,000 00	
Total amount of proceeds from the sale of corporate stock and corporate stock notes applicable to the acquirement of real estate and interest therein, pursuant to the provisions of Contract No. 4, from January 1, 1916, to December 31, 1916,.....									\$692,000 00

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4—Continued

## CORPORATE STOCK — Continued

## LXX. TRACK MATERIALS

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the purchase of track materials, pursuant to Contract No. 4.

Track materials	Date of sale	Interest rate	Maturity	Issue of Stock				Amount of proceeds credited	Total
				Date of issue	Rate of premium	Amount issued	Amount of premium		
	*June 23, 1915	4	July 20, 1915	July 6, 1915	.....	1,000 00	.....	\$1,000 00	\$1,000 00
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Feb. 9, 1916	.....	\$4,000 00	.....	\$4,000 00	
	Jan. 16, 1916	2 1/2	Mar. 6, 1916	Feb. 15, 1916	.....	34,000 00	.....	34,000 00	
	Feb. 16, 1916	2 1/2	Apr. 17, 1916	Feb. 24, 1916	.....	2,000 00	.....	2,000 00	
	Feb. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 2, 1916	.....	4,000 00	.....	4,000 00	
	Feb. 28, 1916	2 1/2	Apr. 28, 1916	Mar. 15, 1916	.....	2,000 00	.....	2,000 00	
	Mar. 13, 1916	2 1/2	Apr. 28, 1916	Mar. 22, 1916	.....	30,000 00	.....	30,000 00	
	Mar. 27, 1916	3	July 1, 1916	April 3, 1916	.....	2,000 00	.....	2,000 00	
	May 6, 1916	3	July 1, 1916	April 7, 1916	.....	28,000 00	.....	28,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 9, 1916	.....	13,000 00	.....	13,000 00	
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	20,000 00	.....	20,000 00	
	May 29, 1916	3	Dec. 31, 1916	May 25, 1916	.....	8,000 00	.....	8,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 1, 1916	.....	3,000 00	.....	3,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 14, 1916	.....	11,000 00	.....	11,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	12,000 00	.....	12,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 12, 1916	.....	4,000 00	.....	4,000 00	
	July 21, 1916	3	Dec. 31, 1916	Aug. 1, 1916	.....	16,000 00	.....	16,000 00	
	Nov. 1, 1916	3 1/2	Apr. 2, 1917	Nov. 22, 1916	.....	23,000 00	.....	23,000 00	
	Nov. 28, 1916	3	June 30, 1917	Nov. 28, 1916	.....	6,100 00	.....	6,100 00	
	Nov. 28, 1916	3	June 30, 1917	Dec. 6, 1916	.....	45,000 00	.....	45,000 00	
	Dec. 1, 1916	3 1/2	Mar. 15, 1917	Dec. 18, 1916	.....	10,000 00	.....	10,000 00	
	Dec. 6, 1916	3 1/2	Mar. 12, 1917	Dec. 26, 1916	.....	10,000 00	.....	10,000 00	\$277,100 00
Total amount of proceeds from sale of corporate stock and corporate stock notes applicable to the purchase of track materials, pursuant to Contract No. 4, from January 1, 1916, to December 31, 1916.....									\$277,100 00

\* The allotment of \$1,000 made July 6, 1915, was omitted from the printed report of the Commission for the year 1915.

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4 — Continued

## CORPORATE STOCK — Continued

## LXXI. TRACK INSTALLATION

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to track installation, pursuant to Contract No. 4.

ROUTE AND SECTION	Date of sale	Interest rate	Maturity	ISSUE OF STOCK					Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	Amount of proceeds credited	
Installation of tracks, Route No. 11, Manhattan bridge to 86th street, Brooklyn. Installation of tracks, Route No. 32, Section No. 2	Feb. 28, 1916	2½	April 28, 1916	Mar. 13, 1916	.....	\$1,000 00	.....	\$1,000 00	\$25,880 00
	Sept. 1, 1916	3	Dec. 31, 1916	Sept. 11, 1916	.....	24,880 00	.....	24,880 00	
	Dec. 24, 1916	2½	Mar. 8, 1916	Jan. 19, 1916	.....	2,355 00	.....	\$2,355 00	
	Feb. 15, 1916	2½	April 17, 1916	Feb. 24, 1916	.....	5,000 00	.....	5,000 00	
	Feb. 28, 1916	2½	April 28, 1916	Mar. 13, 1916	.....	5,000 00	.....	5,000 00	
	Apr. 8, 1916	2½	April 20, 1916	April 17, 1916	.....	8,000 00	.....	8,000 00	
	May 6, 1916	3	Dec. 31, 1916	May 17, 1916	.....	13,000 00	.....	13,000 00	
	May 29, 1916	3	Dec. 31, 1916	June 18, 1916	.....	12,000 00	.....	12,000 00	
	June 23, 1916	3	Dec. 31, 1916	July 19, 1916	.....	9,000 00	.....	9,000 00	
	July 21, 1916	3	Dec. 31, 1916	Aug. 17, 1916	.....	2,000 00	.....	2,000 00	
Installation of tracks, Routes Nos. 4 and 36, 5, 20, 33. Installation of tracks, Routes Nos. 36, 37 and 50.	Nov. 1, 1916	3½	April 2, 1917	Nov. 22, 1916	.....	6,000 00	.....	\$6,000 00	53,355 00
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 26, 1916	.....	8,000 00	.....	8,000 00	
	May 6, 1916	3	Dec. 31, 1916	May 17, 1916	.....	300 00	.....	\$300 00	
	May 29, 1916	3	Dec. 31, 1916	June 21, 1916	.....	1,000 00	.....	1,000 00	
	Nov. 1, 1916	3½	April 2, 1917	Nov. 22, 1916	.....	2,000 00	.....	2,000 00	
	Dec. 6, 1916	3½	Mar. 12, 1917	Dec. 26, 1916	.....	1,000 00	.....	1,000 00	
					.....				
					.....				
					.....				
					.....				
Total amount of proceeds from sale of corporate stock and corporate stock notes available for the installation of tracks, pursuant to Contract No. 4, from January 1, 1916, to December 31, 1916.....									\$97,535 00

RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4 — *Concluded*CORPORATE STOCK — *Concluded*

## LXXII. INTEREST ON CORPORATE STOCK

Statement showing the issue of corporate stock of the City of New York from January 1, 1916, to December 31, 1916, the proceeds thereof to be applied to the payment of interest on corporate stock.

Interest.....	Date of sale	Interest rate	Maturity	Issue of Stock				Total
				Date of issue	Rate of premium	Amount issued	Amount of premium	
	Nov. 11, 1915	2 1/2	Mar. 28, 1916	Jan. 7, 1916	.....	\$12,000 00	.....	\$12,000 00
	Dec. 24, 1915	2 1/2	Mar. 8, 1916	Jan. 7, 1916	.....	1,000 00	.....	1,000 00
	Jan. 5, 1916	2 1/2	Mar. 6, 1916	Jan. 21, 1916	.....	2,000 00	.....	2,000 00
	Feb. 15, 1916	2 1/2	April 17, 1916	Feb. 17, 1916	.....	28,000 00	.....	28,000 00
	Feb. 18, 1916	2 1/2	April 18, 1916	Feb. 29, 1916	.....	336,079 31	.....	336,079 31
	Feb. 25, 1916	2 1/2	April 25, 1916	Feb. 29, 1916	.....	203,920 69	.....	203,920 69
	Feb. 28, 1916	2 1/2	April 28, 1916	Mar. 2, 1916	.....	11,000 00	.....	11,000 00
	Feb. 28, 1916	2 1/2	April 28, 1916	Mar. 6, 1916	.....	10,000 00	.....	10,000 00
	Mar. 13, 1916	2 1/2	May 25, 1916	Mar. 17, 1916	.....	11,110 36	.....	11,110 36
	Mar. 13, 1916	2 1/2	June 23, 1916	Mar. 17, 1916	.....	24,642 13	.....	24,642 13
	Mar. 13, 1916	2 1/2	June 23, 1916	Mar. 22, 1916	.....	37,000 00	.....	37,000 00
	April 8, 1916	2 1/2	April 20, 1916	April 13, 1916	.....	7,000 00	.....	7,000 00
	April 8, 1916	2 1/2	April 20, 1916	April 19, 1916	.....	3,000 00	.....	3,000 00
	May 6, 1916	3	Dec. 31, 1916	May 9, 1916	.....	243,000 00	.....	243,000 00
	May 6, 1916	3	Dec. 31, 1916	May 10, 1916	.....	2,000 00	.....	2,000 00
	May 6, 1916	3	Dec. 31, 1916	May 17, 1916	.....	3,000 00	.....	3,000 00
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	5,000 00	.....	5,000 00
	May 20, 1916	3	Dec. 31, 1916	May 20, 1916	.....	2,000 00	.....	2,000 00
	May 20, 1916	3	Dec. 31, 1916	May 24, 1916	.....	237,969 16	.....	237,969 16
	May 20, 1916	3	Dec. 31, 1916	May 29, 1916	.....	111,030 84	.....	111,030 84
	May 20, 1916	3	Dec. 31, 1916	May 29, 1916	.....	9,000 00	.....	9,000 00
	May 20, 1916	3	Dec. 31, 1916	June 12, 1916	.....	3,000 00	.....	3,000 00
	May 20, 1916	3	Dec. 31, 1916	June 19, 1916	.....	533,000 00	.....	533,000 00
	Sept. 1, 1916	3 1/2	Dec. 31, 1916	Sept. 2, 1916	.....	47,064 66	.....	47,064 66
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 9, 1916	.....	256,835 24	.....	256,835 24
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 9, 1916	.....	11,000 00	.....	11,000 00
	Oct. 6, 1916	3 1/2	Feb. 9, 1917	Oct. 11, 1916	.....		.....	

Oct. 6, 1916	Feb. 9, 1917	Oct. 23, 1916	.....	11,000 00	.....	11,000 00
31	April 16, 1917	Oct. 27, 1916	.....	51,000 00	.....	51,000 00
31	April 16, 1917	Nov. 2, 1916	.....	146,000 00	.....	146,000 00
31	April 2, 1917	Nov. 17, 1916	.....	2,000 00	.....	2,000 00
31	April 2, 1917	Nov. 17, 1916	.....	217,064 66	.....	217,064 66
31	June 30, 1917	Nov. 28, 1916	.....	137,935 34	.....	137,935 34
31	June 30, 1917	Nov. 28, 1916	.....	58,000 00	.....	58,000 00
31	June 30, 1917	Dec. 1, 1916	.....	2,000 00	.....	2,000 00
31	Mar. 12, 1917	Dec. 13, 1916	.....	1,000 00	.....	1,000 00
31	Mar. 12, 1917	Dec. 18, 1916	.....	6,000 00	.....	6,000 00
31	Mar. 12, 1917	Dec. 20, 1916	.....		.....	
Total amount of the proceeds from the sale of corporate stock and corporate stock notes, applicable to the payment of interest on corporate stock of the City of New York, issued pursuant to Contract No. 4, from January 1, 1916, to December 31, 1916.....						
						\$2,762,752 49

**RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK**  
**CONTRACT NO. 4**  
**DISBURSEMENTS**

**LXXIIIa. TRACK MATERIAL**

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for track material under the provisions of Contract No. 4, and the agreements amendatory thereof and supplemental thereto, for the construction of the railroad under Contract No. 4, from January 1, 1916, to December 31, 1916.

Order No. 2.	Requisition	To date	Payments authorized	To contractor	Amount	Total
2	.....	Jan. 31, 1916	Track material, ties and timber	J. H. Burton & Co.	\$33,235 80	\$115,770 04
	.....	Feb. 29, 1916	Track material, ties and timber	J. H. Burton & Co.	27,995 55	
	.....	April 21, 1916	Track material, ties and timber	J. H. Burton & Co.	28,223 05	
	.....	May 9, 1916	Track material, ties and timber	J. H. Burton & Co.	10,833 11	
	.....	June 23, 1916	Track material, ties and timber	J. H. Burton & Co.	15,376 43	
	.....	July 27, 1916	Track material, ties and timber	J. H. Burton & Co.	15,376 43	
1	.....	Mar. 23, 1916	Track material, malleable iron castings	Foran Foundry & Manufacturing Co.	\$1,531 04	4,778 30
	.....	May 22, 1916	Track material, malleable iron castings	Foran Foundry & Manufacturing Co.	3,247 16	
	.....	July 6, 1916	Track material, malleable iron castings	Foran Foundry & Manufacturing Co.	1,950 83	
	.....	Feb. 17, 1916	Track material, open-hearth rails	Bethlehem Steel Products Co.	21,804 00	
	.....	Mar. 16, 1916	Track material, open-hearth rails	Bethlehem Steel Products Co.	26,065 11	
	.....	Dec. 13, 1916	Track material, open-hearth rails	Bethlehem Steel Products Co.	26,065 11	
2	.....	Jan. 31, 1916	Track material, manganese steel rail	Manganese Steel Rail Co.	\$481 11	52,819 64
	.....	Feb. 29, 1916	Track material, manganese steel rail	Manganese Steel Rail Co.	1,073 41	
	.....	Mar. 16, 1916	Track material, manganese steel rail	Manganese Steel Rail Co.	3,139 60	
	.....	Apr. 30, 1916	Track material, manganese steel rail	Manganese Steel Rail Co.	5,207 23	
	.....	Nov. 30, 1916	Track material, manganese steel rail	Manganese Steel Rail Co.	5,207 23	
	.....	Dec. 20, 1916	Track material, manganese steel rail	Manganese Steel Rail Co.	5,207 23	
1	.....	Jan. 31, 1916	Track material, screw spikes	American Iron & Steel Mfg. Co.	\$224 36	10,861 35
	.....	Feb. 29, 1916	Track material, screw spikes	American Iron & Steel Mfg. Co.	802 22	
	.....	Sep. 30, 1916	Track material, screw spikes	American Iron & Steel Mfg. Co.	1,053 71	
	.....	Nov. 30, 1916	Track material, screw spikes	American Iron & Steel Mfg. Co.	1,053 71	
	.....	Dec. 13, 1916	Track material, screw spikes	American Iron & Steel Mfg. Co.	1,053 71	
	.....	Feb. 17, 1916	Track material, screw spikes	American Iron & Steel Mfg. Co.	1,053 71	
1	.....	Jan. 31, 1916	Track material, felt pads	The Q. & C. Co.	\$48 62	3,060 81
	.....	Feb. 29, 1916	Track material, felt pads	The Q. & C. Co.	\$48 62	
1	.....	Mar. 9, 1916	Track material, anti-sweepers	Cresphone & Co.	\$917 05	46 62
						917 05

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1.....	Jan. 31, 1916	Feb. 17, 1916	Track material, splice bars.....	Rail Joint Co.....	\$331 57
2.....	Feb. 29, 1916	Mar. 16, 1916	Track material, splice bars.....	Rail Joint Co.....	1,934 96
3.....	Mar. 31, 1916	Apr. 20, 1916	Track material, splice bars.....	Rail Joint Co.....	934 53
10.....	Oct. 31, 1916	Nov. 16, 1916	Track material, splice bars.....	Rail Joint Co.....	339 06
11.....	Nov. 30, 1916	Dec. 13, 1916	Track material, splice bars.....	Rail Joint Co.....	5,486 87
1.....	Jan. 31, 1916	Feb. 17, 1916	Track material, nut locks.....	Robert T. Hensley.....	94 71
4.....	Aug. 31, 1916	Sept. 14, 1916	Track material, nut locks.....	Robert T. Hensley.....	14 96
1.....	Feb. 29, 1916	Mar. 16, 1916	Track material, nut track spikes.....	Herbert W. Lockwood.....	9473 43
2.....	Mar. 31, 1916	Apr. 20, 1916	Track material, nut track spikes.....	Herbert W. Lockwood.....	473 74
7.....	Sept. 30, 1916	Oct. 19, 1916	Track material, nut track spikes.....	Herbert W. Lockwood.....	94 79
8.....	Nov. 30, 1916	Dec. 13, 1916	Track material, nut track spikes.....	Herbert W. Lockwood.....	637 20
1.....	Feb. 29, 1916	Mar. 9, 1916	Track material, cast iron.....	American Brake Shoe & Foundry Co.....	\$198 33
5.....	Nov. 30, 1916	Dec. 13, 1916	Track material, cast iron.....	American Brake Shoe & Foundry Co.....	963 64
1.....	Feb. 23, 1916	Mar. 16, 1916	Track material, tie plates A.....	Herbert W. Lockwood.....	\$314 04
2.....	Mar. 31, 1916	Apr. 20, 1916	Track material, tie plates A.....	Herbert W. Lockwood.....	1,056 50
9.....	Nov. 30, 1916	Dec. 20, 1916	Track material, tie plates A.....	Herbert W. Lockwood.....	3,318 33
1.....	Feb. 29, 1916	Mar. 19, 1916	Track material, bolts and nuts.....	Oliver Iron & Steel Co.....	\$537 11
2.....	Mar. 31, 1916	May 4, 1916	Track material, bolts and nuts.....	Oliver Iron & Steel Co.....	2,231 88
9.....	Nov. 30, 1916	Dec. 13, 1916	Track material, bolts and nuts.....	Oliver Iron & Steel Co.....	1,853 71
1.....	Jan. 15, 1916	Feb. 3, 1916	Track material, ballast.....	Havenstraw Crushed Stone Co.....	\$5,460 33
1.....	Nov. 30, 1916	Dec. 13, 1916	Track material, ballast.....	Upper Hudson Stone Co.....	\$1,780 67
1.....	Jan. 31, 1916	Feb. 14, 1916	Track material, untreated ties and timber.....	Long Leaf Pine Co.....	\$3,353 47
2.....	Mar. 31, 1916	April 27, 1916	Track material, untreated ties and timber.....	Long Leaf Pine Co.....	173 95
1.....	Mar. 31, 1916	April 20, 1916	Track material, tie plates D.....	Herbert W. Lockwood.....	\$118 90
2.....	May 31, 1916	June 15, 1916	Track material, tie plates D.....	Herbert W. Lockwood.....	113 66
6.....	Nov. 30, 1916	Dec. 13, 1916	Track material, tie plates D.....	Herbert W. Lockwood.....	267 50
1.....	May 31, 1916	July 13, 1916	Track material, malleable iron castings.....	Foran Foundry & Manufacturing Co.....	\$211 34
2.....	July 31, 1916	Aug. 23, 1916	Track material, malleable iron castings.....	Foran Foundry & Manufacturing Co.....	133 06
3.....	Sept. 30, 1916	Oct. 23, 1916	Track material, malleable iron castings.....	Foran Foundry & Manufacturing Co.....	236 68
4.....	Oct. 31, 1916	Nov. 29, 1916	Track material, malleable iron castings.....	Foran Foundry & Manufacturing Co.....	220 70
4.....	Nov. 30, 1916	Dec. 20, 1916	Track material, tie plates E-W-X.....	Ramapo Iron Works.....	\$178 05
1.....	Mar. 31, 1916	April 20, 1916	Track material, tie plates C.....	L. D. Rockwell.....	\$74 49
4.....	June 30, 1916	July 20, 1916	Track material, tie plates C.....	L. D. Rockwell.....	84 94
1.....	Feb. 29, 1916	Mar. 16, 1916	Track material, tie plates B.....	L. D. Rockwell.....	\$3 16
4.....	June 30, 1916	July 20, 1916	Track material, tie plates B.....	L. D. Rockwell.....	394 37

9,126 96  
19 67  
1,633 06  
1,161 97  
5,739 97  
4,702 70  
5,460 33  
1,730 67  
3,529 43  
500 06  
536 73  
178 05  
576 96

## RAPID TRANSIT CONSTRUCTION FUND — CONTRIBUTION BY THE CITY OF NEW YORK — Continued

## CONTRACT NO. 4 — Continued

## DISBURSEMENTS — Continued

## LXXIIIa. TRACK MATERIAL — Concluded

Slacross	Requisition	To date	Payments authorized	To contractor	Amount	Total
Order No. 3.	1.....	Feb. 29, 1916	Track material, tie plates E, F, G, H.....	Herbert W. Lockwood.....	\$75 81	\$875 40
	3.....	Sept. 30, 1916	Track material, tie plates E, F, G, H.....	Herbert W. Lockwood.....	98 39	
	5.....	Nov. 30, 1916	Track material, tie plates E, F, G, H.....	Herbert W. Lockwood.....	501 20	
	1.....	Feb. 29, 1916	Track material, untreated tie and timber.....	J. H. Burton & Co., Inc.....	\$346 88	
	2.....	April 30, 1916	Track material, untreated tie and timber.....	J. H. Burton & Co., Inc.....	7,178 81	
Order No. 7.	3.....	May 31, 1916	Track material, untreated tie and timber.....	J. H. Burton & Co., Inc.....	12,456 89	25,803 02
	8.....	Oct. 31, 1916	Track material, untreated tie and timber.....	J. H. Burton & Co., Inc.....	5,830 44	
	2.....	Nov. 4, 1916	Track material, special work.....	Ramapo Iron Works.....	\$1,179 00	
	1.....	Oct. 31, 1916	Track material, special work.....	Ramapo Iron Works.....	\$22 035 60	
	2.....	Nov. 30, 1916	Track material, special work.....	Ramapo Iron Works.....	6,073 50	
Total amount paid to the various contractors for track materials pursuant to the provisions of Contract No. 4, for the construction of additional railroads under Contract No. 4, from January 1, 1916, to December 31, 1916.....					\$278,367 00	

## CONTRACT NO. 4

## LXXIIIb. DISBURSEMENTS — TRACK INSTALLATION

Statement showing the requisitions made upon the Public Service Commission for the First District and the payments authorized under the direction of the Public Service Commission to be made to the various contractors for track installation, under the provisions of Contract No. 4, and the agreements amendatory thereof and supplemental thereto, for the construction of the railroad under Contract No. 4, from January 1, 1916, to December 31, 1916.

ROUTE AND SECTION	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 30, Sec. 2	3.....	Dec. 31, 1915	Jan. 13, 1916	As stated on page 63 of the minutes of the Public Service Commission.....	Ward & Tully, Inc.....	\$2,333 29
	4.....	Jan. 31, 1916	Feb. 17, 1916	As stated on page 270 of said minutes.....	Ward & Tully, Inc.....	5,013 35
	5.....	Feb. 29, 1916	Mar. 9, 1916	As stated on page 401 of said minutes.....	Ward & Tully, Inc.....	4,467 06
	6.....	Mar. 31, 1916	Apr. 13, 1916	As stated on page 595 of said minutes.....	Ward & Tully, Inc.....	7,960 23
	7.....	Apr. 30, 1916	May 11, 1916	As stated on page 746 of said minutes.....	Ward & Tully, Inc.....	12,423 17
	8.....	May 31, 1916	June 9, 1916	As stated on page 837 of said minutes.....	Ward & Tully, Inc.....	11,823 10
	9.....	June 30, 1916	July 13, 1916	As stated on page 1130 of said minutes.....	Ward & Tully, Inc.....	5,893 78
	10.....	July 31, 1916	Aug. 11, 1916	As stated on page 1340 of said minutes.....	Ward & Tully, Inc.....	2,044 53
	1, supplementary.	Mar. 31, 1916	Apr. 13, 1916	As stated on page 523 of said minutes.....	Ward & Tully, Inc.....	\$51,907 47
	2, supplementary.	May 31, 1916	June 9, 1916	As stated on page 933 of said minutes.....	Ward & Tully, Inc.....	\$549 32
R. 11-A and R. 11-B	3, supplementary.	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1703 of said minutes.....	Ward & Tully, Inc.....	271 60
	Final.....	Oct. 31, 1915	Mar. 2, 1916	As stated on page 333 of said minutes.....	Thomas Crimmins Contracting Co.....	\$1,357 02
		May 31, 1916	Sept. 6, 1916	As stated on page 1504 of said minutes.....	Thomas Crimmins Contracting Co.....	\$1,327 58
R. 5, 20, 32, 4 and 36	1.....	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1899 of said minutes.....	T. H. Reynolds Contracting Co., Inc.....	\$3,719 01
	2.....	Nov. 30, 1916	Dec. 20, 1916	As stated on page 2118 of said minutes.....	T. H. Reynolds Contracting Co., Inc.....	8,132 64
R. 36, 37 and 50	4.....	Mar. 31, 1916	May 11, 1916	As stated on page 749 of said minutes.....	Thomas Crimmins Contracting Co.....	\$80 91
	5.....	Apr. 30, 1916	June 15, 1916	As stated on page 976 of said minutes.....	Thomas Crimmins Contracting Co.....	461 02
	6.....	May 31, 1916	July 13, 1916	As stated on page 1133 of said minutes.....	Thomas Crimmins Contracting Co.....	223 11
	10.....	Oct. 31, 1916	Nov. 16, 1916	As stated on page 1900 of said minutes.....	Thomas Crimmins Contracting Co.....	1,575 59
	11.....	Nov. 30, 1916	Dec. 20, 1916	As stated on page 3119 of said minutes.....	Thomas Crimmins Contracting Co.....	1,786 97
						4,129 60
Total amount paid to the various contractors for track installation under the provisions of Contract No. 4, for the construction of the railroad under Contract No. 4, from January 1, 1916, to December 31, 1916.....						\$97,078 76

## RAPID TRANSIT CONSTRUCTION FUND — COMPLETION OF CONSTRUCTION AND STATION FINISH

## CONTRACT NO. 4

## LXXIV. DISBURSEMENTS

Statement showing requisitions made upon the Public Service Commission for the First District and payments authorized under the direction of the Public Service Commission to be made to the various contractors for work done and materials furnished in the completion of construction and station finish, under the provisions of Contract No. 4, and the agreements amendatory thereof and supplemental thereto, from January 1, 1916, to December 31, 1916.

Route and Section	Requisition	To date	Payments authorized	To contractor	Amount	Total
R. 6, Secs. 1-4 Station finish	1.....	May 31, 1916	As stated on page 937 of the minutes of the Public Service Commission.....	D. C. Serber.....	\$10,241 47	\$136,109 50
	2.....	June 30, 1916	As stated on page 1174 of said minutes.....	D. C. Serber.....	16,788 79	
	3.....	July 31, 1916	As stated on page 1361 of said minutes.....	Serber-Stander Co., Inc.....	21,569 95	
	4.....	Aug. 31, 1916	As stated on page 1541 of said minutes.....	Serber-Stander Co., Inc.....	22,602 02	
	5.....	Sept. 30, 1916	As stated on page 1742 of said minutes.....	Serber-Stander Co., Inc.....	20,884 45	
	6.....	Oct. 31, 1916	As stated on page 1909 of said minutes.....	Serber-Stander Co., Inc.....	21,477 34	
	7.....	Nov. 30, 1916	As stated on page 2059 of said minutes.....	Serber-Stander Co., Inc.....	17,545 48	
R. 4 and 26, R. 20, 22d St., and 26th St., Station finish	1.....	Nov. 30, 1916	As stated on page 2118 of said minutes.....	Serber-Stander Co., Inc.....	\$2,103 45	2,103 45
	1 and final.....	Aug. 11, 1916	As stated on page 2060 of said minutes.....	The Snare & Triest Co.....	\$1,300 00	
	1.....	June 30, 1916	As stated on page 1081 of said minutes.....	John W. Masury & Son.....	\$502 00	
Changes in Chambers St. Station Supply of "Q" varnish R. 36 and 27 Secs. 1 and 3 P. 50 Station finish	2.....	Nov. 2, 1916	As stated on page 1944 of said minutes.....	John W. Masury & Son.....	453 00	755 00
	3.....	Jan. 15, 1916	As stated on page 198 of said minutes.....	The Snare & Triest Co.....	\$547 52	
	4.....	Feb. 15, 1916	As stated on page 351 of said minutes.....	The Snare & Triest Co.....	145 50	
	5.....	Mar. 15, 1916	As stated on page 534 of said minutes.....	The Snare & Triest Co.....	2,497 28	
	6.....	Apr. 15, 1916	As stated on page 711 of said minutes.....	The Snare & Triest Co.....	2,165 11	
	7.....	May 15, 1916	As stated on page 1060 of said minutes.....	The Snare & Triest Co.....	2,042 95	
	8.....	June 15, 1916	As stated on page 1128 of said minutes.....	The Snare & Triest Co.....	2,279 35	
	9.....	July 15, 1916	As stated on page 1463 of said minutes.....	The Snare & Triest Co.....	5,066 18	
	10.....	Aug. 30, 1916	As stated on page 1693 of said minutes.....	The Snare & Triest Co.....	4,482 92	
	11.....	Sept. 15, 1916	As stated on page 1823 of said minutes.....	The Snare & Triest Co.....	5,435 53	
	12.....	Oct. 15, 1916	As stated on page 1927 of said minutes.....	The Snare & Triest Co.....	2,830 70	
	13.....	Nov. 15, 1916	As stated on page 2027 of said minutes.....	The Snare & Triest Co.....	3,459 98	
					\$30,921 05	

R. 39, Sec. 2, Station finish	4, supplementary. 5, supplementary.	June 15, 1916 Oct. 15, 1916	Oct. 26, 1916 Dec. 6, 1916	As stated on page 1788 of said minutes... As stated on page 2037 of said minutes...	The Squire & Triest Co. The Squire & Triest Co.	\$23 90 21 72	30,969 67
1.....	Feb. 29, 1916	Mar. 9, 1916	As stated on page 491 of said minutes...	A. L. Guidone & Son, Inc.		\$45 63	
2.....	Mar. 31, 1916	April 13, 1916	As stated on page 495 of said minutes...	A. L. Guidone & Son, Inc.		\$6 371 10	
3.....	Apr. 30, 1916	May 1, 1916	As stated on page 746 of said minutes...	A. L. Guidone & Son, Inc.		5,647 50	
4.....	May 31, 1916	June 9, 1916	As stated on page 637 of said minutes...	A. L. Guidone & Son, Inc.		16,738 20	
5.....	June 30, 1916	July 13, 1916	As stated on page 1180 of said minutes...	A. L. Guidone & Son, Inc.		31,453 60	
6.....	July 31, 1916	Aug. 11, 1916	As stated on page 1360 of said minutes...	A. L. Guidone & Son, Inc.		37,517 40	
7.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1380 of said minutes...	A. L. Guidone & Son, Inc.		27,076 50	
8.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1547 of said minutes...	A. L. Guidone & Son, Inc.		10,296 99	
9.....	Oct. 31, 1916	Nov. 15, 1916	As stated on page 1709 of said minutes...	A. L. Guidone & Son, Inc.		16,286 40	
10.....	Nov. 30, 1916	Dec. 13, 1916	As stated on page 1897 of said minutes...	A. L. Guidone & Son, Inc.		26,601 30	
			As stated on page 2037 of said minutes...	A. L. Guidone & Son, Inc.		22,567 50	
						\$200,498 40	
1, supplementary.	July 31, 1916	Aug. 11, 1916	As stated on page 1360 of said minutes...	A. L. Guidone & Son, Inc.		\$577 52	
2.....	Aug. 31, 1916	Sept. 14, 1916	As stated on page 1547 of said minutes...	A. L. Guidone & Son, Inc.		13,543 20	
3.....	Sept. 30, 1916	Oct. 11, 1916	As stated on page 1709 of said minutes...	A. L. Guidone & Son, Inc.		360 16	
4.....	Nov. 30, 1916	Dec. 20, 1916	As stated on page 2119 of said minutes...	A. L. Guidone & Son, Inc.		5,005 54	
						\$19,486 42	219,964 83
R. 11-B, Sec. 1 and 2, Station finish	12..... Final.	Dec. 31, 1915 May 31, 1916	Jan. 6, 1916 June 29, 1916	As stated on page 31 of said minutes... As stated on page 1006 of said minutes...	Station Construction Co. Station Construction Co.	\$4,770 22 29,749 95	
						\$34,470 18	
2, supplementary.	Dec. 31, 1915 Feb. 29, 1916	Jan. 6, 1916 Mar. 16, 1916	As stated on page 31 of said minutes... As stated on page 431 of said minutes...	Station Construction Co. Station Construction Co.		\$456 53 538 62	
						\$1,295 14	35,765 32
5.....	Nov. 30, 1915	Jan. 13, 1916	As stated on page 64 of said minutes...	D. C. Serber		\$3,515 00	
6.....	Jan. 31, 1916	Mar. 2, 1916	As stated on page 353 of said minutes...	D. C. Serber		1,824 90	
Final.	May 31, 1916	Aug. 23, 1916	As stated on page 1422 of said minutes...	D. C. Serber		4,551 22	
						\$9,591 12	
4, supplementary.	Jan. 31, 1916	April 13, 1916	As stated on page 597 of said minutes...	D. C. Serber		\$3,786 05	13,377 17
Total amount paid to the various contractors for work done and material furnished in the completion of construction and station finish under Contract No. 4, from January 1, 1916, to December 31, 1916.							\$440,364 93

**LXXV. REAL ESTATE**

Statement showing the requisitions made upon the Public Service Commission for the First District, New York, and the payments authorized under the direction of the Public Service Commission to be made for real estate acquired for and in behalf of the City of New York, under the provisions of Contract No. 4, with the New York Municipal Railway Corporation, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction of the Dual System of Rapid Transit Railroads, under Contract No. 4, from January 1, 1916, to December 31, 1916.

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## RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY — Continued

## CONTRACT NO. 4 — Concluded

## DISBURSEMENTS — Concluded

## LXXV. REAL ESTATE — Concluded

	Award or purchase price	Adver- tising	Special service	Clerical and stenog- raphic	Commis- sioner's fees	Office expense	Title ex- amination and searches	Total
Estate in fee — In the matter of acquiring an estate in fee in and to certain premises situated at or near 37th street, or 37th street produced, between the northwesterly line of Tenth avenue and the westerly line of Gravesend avenue, Borough of Brooklyn. Advertising notice of application for confirmation of report of Commissioners of Appraisal, in the above proceeding, as per bill taxed September 27, 1916..... Services rendered as special counsel, in the above proceeding, as per bill taxed, October 9, 1916.....	..... \$389 60 .....	..... \$389 60 .....	..... \$55 56 .....	..... ..... .....	..... ..... .....	..... ..... .....	..... ..... .....	\$445 16
Estate in fee — In the matter of acquiring an estate in fee in and to certain premises situated at and near the southwest corner of Bushwick avenue and Metropolitan avenue, in the Borough of Brooklyn. Advertising notice of application for confirmation of report of Commissioners of Appraisal, in the above proceeding, as per bill taxed, September 27, 1916..... Services rendered as special counsel in the above proceeding, as per bill taxed, October 9, 1916.....	..... \$211 20 .....	..... \$211 20 .....	..... \$55 56 .....	..... ..... .....	..... ..... .....	..... ..... .....	..... ..... .....	266 76
Estate in fee — In the matter of acquiring an estate in fee in and to certain premises situated at the southwest corner of Fulton street and St. Felix street, Borough of Brooklyn. Advertising notice of application for confirmation of report of Commissioners of Appraisal, in the above proceeding, as per bill taxed, September 27, 1916..... Services as special counsel in the above proceeding, as per bill taxed, October 9, 1916.....	..... \$179 20 .....	..... \$179 20 .....	..... \$55 56 .....	..... ..... .....	..... ..... .....	..... ..... .....	..... ..... .....	234 76

Estate in fee — In the matter of acquiring an estate in fee in and to certain premises situated in the block bounded by Atlantic avenue, Flatbush avenue and Fifth avenue, in the Borough of Brooklyn. Awards made pursuant to report dated March 31, 1916, of the Commissioners of Appraisal, appointed by the Supreme Court, Second Judicial District, and confirmed by order of said Court, June 3, 1916.....	\$408,184 75	.....	.....	.....	.....	.....	.....	.....	408,184 75
Estate in fee and easements — In the matter of acquiring certain lands, lands under water and lands under water filled in, also certain rights, easements and rights of way in certain other lands, all located at and near the foot of North Seventh street, Brooklyn. Real estate acquired by deed of conveyance to the City of New York under the direction of the Public Service Commission for the First District agreement of June 26, 1916.....	\$200,000 00	.....	.....	.....	.....	.....	.....	.....	201,441 06
Interest on purchase price of the above named property, from July 1, 1916, to August 3, 1916.....	1,068 66	.....	.....	.....	.....	.....	.....	.....	
Fee for examination of title and insurance of property named above.....	.....	.....	.....	.....	.....	.....	.....	.....	\$375 00
Easements — Construction of reinforced concrete slab or table at Atlantic and Flatbush avenues. Station in connection with grant of permanent right, easement and right of way required for the construction and operation of Section 1-B of Route 12, as per agreement with L. I. R. Co., dated January 31, 1916.....	\$275,979 39	.....	.....	.....	.....	.....	.....	.....	275,979 39
Rebate — To reimburse the City of New York. Rebate received from the Transit Development Company to cover disbursements and costs made in the matter of acquiring property situated at 38th street and 38th street produced, Borough of Brooklyn.....	.....	.....	.....	.....	.....	.....	.....	.....	\$901,453 14
Total amount paid from funds contributed by the City of New York for real estate acquired under provision of the various contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Dual System of Rapid Transit Railroads, under Contract No. 4, from January 1, 1916, to December 31, 1916.....	.....	.....	.....	.....	.....	.....	.....	.....	\$3 10
		.....	.....	.....	.....	.....	.....	.....	\$3 10
		.....	.....	.....	.....	.....	.....	.....	\$901,419 04

## RAPID TRANSIT CONSTRUCTION FUND — CONTRACT No. 4

## DISBURSEMENTS

## LXXXVI. INTEREST ON CORPORATE STOCK

Statement showing the payments made under the direction of the City Comptroller for interest due on the corporate stock issued by the City of New York for the construction and operation of the Dual System of Rapid Transit Railroads under contract with the New York Municipal Railway Corporation, Contract No. 4, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, from July 1, 1907, to December 31, 1916, including the interest on bonds issued for parts of the railroad under construction prior to said contract and later included in said contract.

Date	Brooklyn Loop Lines	Brooklyn Fourth Avenue Subway	Broadway and Broadway-59th Street Route	Contract No. 4, prior to Mar., 1914	Contract No. 4, since Mar., 1914	Total, Contract No. 4	Gross interest as reported by Comptroller	Additional interest applied	Bank interest credited
Nov. 1, 1907	9375 56	.....	.....	.....	.....	9375 56	99,179 54	\$8,497 00	.....
Nov. 1, 1908	27,845 00	.....	.....	.....	.....	27,845 00	47,719 22	19,873 22	.....
Nov. 1, 1909	68,245 00	.....	.....	.....	.....	68,245 00	75,221 06	5,873 06	.....
Nov. 1, 1909	91,182 86	.....	.....	.....	.....	91,182 86	106,530 20	9,347 41	.....
Nov. 1, 1909	121,521 12	.....	.....	.....	.....	121,521 12	194,339 29	32,820 17	.....
Nov. 1, 1910	143,329 06	8688 28	.....	.....	.....	144,015 24	171,867 53	27,841 99	.....
Nov. 1, 1910	166,007 47	24,650 77	.....	.....	.....	190,658 24	231,634 28	41,013 81	.....
Nov. 1, 1911	187,937 08	3,070 77	.....	.....	.....	191,007 85	239,313 75	15,250 81	.....
Nov. 1, 1911	197,037 08	9,783 06	.....	.....	.....	206,820 14	278,866 00	35,853 49	.....
Nov. 1, 1911	171,614 41	12,431 87	.....	.....	.....	184,046 28	229,313 75	3,936 42	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	68,234 23	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	.....	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	77,574 93	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	.....	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	92,033 84	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	.....	.....
Nov. 1, 1912	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	61,261 95	.....
Nov. 1, 1913	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	10,373 17	.....
Nov. 1, 1913	171,614 41	2,367 04	.....	.....	.....	173,981 45	239,313 75	.....	.....
Total interest on corporate stock.	31,908,576 98	61,317,322 95	.....	.....	.....	93,225,900 93	\$9,814,900 83	\$827,073 99	.....
Interest on notes paid in 1912, taken up by bond sale May 1, 1913.	9,216 53	13,356 67	.....	.....	.....	22,573 20	19,108 43	5,474 76	.....
Interest on notes paid in 1913, taken up by bond sale of May 23, 1913.	.....	.....	.....	.....	.....	.....	15,988 95	.....	.....

[illegible]

Lessee contributions, N. Y. M. Ry. Corp., a \$463,381.59; l \$197,091.33. c Includes \$68,880 paid from appropriation from tax levy.

## RAPID TRANSIT CONSTRUCTION FUND — NEW YORK MUNICIPAL RAILWAY CORPORATION

## CONTRACT NO. 4

## LXXVII. REQUISITIONS AND CONTRIBUTIONS

Statement of requisitions made upon the New York Municipal Railway Corporation for funds and the contributions made by the New York Municipal Railway Corporation towards the cost of construction of the Dual System of Rapid Transit Railroads under the direction of the Public Service Commission for the First District, pursuant to Contract No. 4, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, during the period January 1, 1916, to December 31, 1916.

Requisition	Amount	Contribution	Amount
January 27, 1916. As stated on page 145 of the minutes of the Public Service Commission. Real estate. Fees for examining and insuring titles to premises on east side of Tenth avenue south of 37th street, Borough of Brooklyn, necessary to be acquired for the construction of the Culver Line (Gravesend Avenue Route 49).....	\$40 00	February 4, 1916. As stated on page 205 of the minutes of the Public Service Commission.....	\$40 00
	\$40 00		\$40 00

RAPID TRANSIT CONSTRUCTION FUND — NEW YORK MUNICIPAL RAILWAY CORPORATION — *Concluded*CONTRACT NO. 4 — *Concluded*LXXVII. REQUISITIONS AND CONTRIBUTIONS — *Concluded*

(Canal Street Connection)

Route and Section	No.	To date	Requisition	Amount	Contribution	Amount	Total
Route No. 5 Sec. No. 2 Canal street crossover	Final ..	.....	May 4, 1916. As stated on page 693 of the minutes of the Public Service Commission....	\$5,860 00	May 24, 1916. As stated on page 952 of the minutes of the Public Service Commission.....	\$5,860 00	
Route No. 5 Sec. No. 2-A Canal street connection	14-M... Final...	Dec. 31, 1915 .....	Feb. 24, 1916. As stated on page 279 of said minutes..... May 18, 1916. As stated on page 767 of said minutes.....	4,831 78 27,064 51	Mar. 9, 1916. As stated on page 446 of said minutes.. June 1, 1916. As stated on page 953 of said minutes..	4,831 78 27,064 51	
Route No. 5 Sec. No. 3 Canal street connection	Final...	.....	Mar. 2, 1916. As stated on page 323 of said minutes.....	39,371 09			
Route No. 5 Sec. No. 3 Spring street crossover	Final...	.....	Mar. 2, 1916. As stated on page 323 of said minutes.....	7,955 31	April 1, 1916. As stated on page 845 of said minutes..	47,326 40	
				<u>\$85,102 69</u>		<u>\$85,102 69</u>	\$85,102 69
Total amount of the requisitions made upon the New York Municipal Railway Corporation for the requirements of the Public Service Commission in the construction of the Dual System of Rapid Transit Railroads under Contract No. 4, from January 1, 1916, to December 31, 1916.....				\$85,143 69	Total amount of the contributions made by the New York Municipal Railway Corporation towards the cost of construction of the Dual System of Rapid Transit Railroads pursuant to Contract No. 4, from January 1, 1916, to December 31, 1916.....	\$85,143 69	\$85,143 69

## DUAL SYSTEM CONSTRUCTION FUND — CONTRIBUTION BY THE NEW YORK MUNICIPAL RAILWAY CORPORATION

## CONTRACT NO. 4

## DISBURSEMENTS

## LXXVIII REAL ESTATE

Statement showing the requisitions made upon the New York Municipal Railway Corporation and the payments authorized under the direction of the Public Service Commission to be made for real estate, acquired for and in behalf of the City of New York under provision of Contract No. 4, with the New York Municipal Railway Corporation, dated March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction of the Dual System of Rapid Transit Railroads under Contract No. 4, from January 1, 1916, to December 31, 1916.

## REAL ESTATE SEARCH

Fees for examining and insuring titles on various properties, viz.: Estate in fee — Acquisition of an estate in fee in and to certain premises on east side of Tenth avenue south of 37th street, Borough of Brooklyn (Route 39, block 11, lot 309).....	\$40 00
Total amount paid from funds contributed by the New York Municipal Railway Corporation for real estate acquired under provision of the various contracts and the agreements amendatory thereof and supplemental thereto, for the construction of the Dual System of Rapid Transit Railroads under Contract No. 4, from January 1, 1916, to December 31, 1916.....	\$40 00

NOTE.— In addition to the above disbursements, there has been allowed as a part of the contribution of the New York Municipal Railway Corporation towards "City Owned" lines under the provisions of Contract No. 4, the following amounts:

Feb. 24, 1914. As stated on page 167 of the minutes of the Public Service Commission.....	\$1,000,000 00
Dec. 1, 1916. As stated on page 1827 of the minutes of the Public Service Commission.....	150,000 00
	<u>\$1,150,000 00</u>

## LXXIX. SPECIAL ACCOUNT REAL ESTATE

Statement of the proceeds of the sale of property and rentals for leases of property acquired for rapid transit purposes, upon deposit with the chamberlain of the City of New York, and available for the purchase of other property under the direction of the Public Service Commission for the First District, New York, December 31, 1916.

ROUTE	Amount	Total
<i>Brooklyn Loop Lines</i>		
Total to December 31, 1915.....	\$764,098 72	
Rentals collected by the Public Service Commission for the First District, New York, for the leases of property acquired in the construction of the Brooklyn Loop Lines (Manhattan Section), viz.:		
West side of Centre street between Canal and Howard streets, Borough of Manhattan.....	5,460 00	
West side of Centre street, between Walker and Canal streets, Borough of Manhattan.....		
No. 106 Walker street, Borough of Manhattan.....		
		\$769,558 72
<i>Brooklyn (Fourth Avenue) Subway</i>		
Total to December 31, 1915.....	\$53,478 39	
Rentals collected by the Public Service Commission for the First District, New York, for leases of property acquired in the construction of the Brooklyn (Fourth Avenue) Subway, viz.:		
Hudson avenue and Fulton street, Borough of Brooklyn.....	12,288 80	
Fulton street and Rockwell place, Borough of Brooklyn.....		
Myrtle avenue and Flatbush avenue extension, Borough of Brooklyn.....		
		65,767 19
<i>Broadway Route (Manhattan)</i>		
Total to December 31, 1915.....	\$4,842 08	
Total to December 31, 1916.....		4,842 08
<i>Lexington Avenue Subway</i>		
Total to December 31, 1915.....	\$612 00	
Rental for half of vacant plot at 138th street and Park avenue, \$300.00.....	969 67	
Rental for sign board privileges at 138th street and Mott avenue, \$60.00.....		
Rental of premises to Police Department at E. 146th street and Walton avenue, from September 1, 1915, to July 5, 1916, \$609.67.....		
		1,581 67
<i>White Plains Road Line</i>		
Total to December 31, 1915.....	\$4,867 00	
Rental of vacant lot at E. 180th street and Bronx Park avenue, from November 1, to December 31, 1916.....	49 50	
		4,916 50
<i>Nostrand Avenue Route</i>		
Total to December 31, 1915.....	\$915 00	
Total to December 31, 1916.....		915 00
<i>Park Avenue-Lexington Avenue Connection</i>		
Total to December 31, 1915.....	\$9,912 50	
Total to December 31, 1916.....		9,912 50
<i>Park Place, William and Clark Street Route</i>		
Total to December 31, 1915.....	\$7,538 84	
Total to December 31, 1916.....		7,538 84
<i>Fourteenth Street—Eastern Line</i>		
Sale and wrecking of buildings at 794-8 Metropolitan avenue and 2-8 Bushwick avenue.....	\$526 25	
		526 25
<i>New Utrecht Avenue Route (Broadway-Fourth Avenue Line)</i>		
Total to December 31, 1915.....	\$7,052 79	

LXXIX. SPECIAL ACCOUNT REAL ESTATE — *Concluded*

<i>New Utrecht Avenue Route (Broadway-Fourth Avenue Line)—Concl.</i>			
Rentals collected by the Public Service Commission for the First District, New York, for leases of property acquired in the construction of the New Utrecht Avenue route, viz.:			
No. 1826 85th street.....	\$1,079 85		
No. 1845 86th street.....			
No. 8132 New Utrecht avenue.....			
Billboard sites on New Utrecht avenue, at 81st and 86th streets..			
Stand at corner Eighteenth avenue and 86th street.....			
			\$8,132 64
<i>Eastern Parkway Line (Livonia Avenue Route)</i>			
Sale of old building, 1911 Union street.....	\$75 00		75 00
<i>(Broadway-Fourth Avenue) St. Felix Street Connection and Flatbush Avenue Line</i>			
Total to December 31, 1915.....	\$14,217 38		
Rentals collected by the Public Service Commission for leases of property acquired for construction of said line, No. 155-161 Flatbush avenue:			
Billboards on Atlantic avenue, corner of Flatbush avenue.....	3,168 44		
Wrecking buildings at 616-22 Fulton street.....			
Rentals on premises acquired in condemnation proceedings at 153-175 Flatbush avenue.....			
			17,385 82
<i>Whitehall-East River-Montague Street Line</i>			
Total to December 31, 1915.....	\$2,200 00		
Total to December 31, 1916.....			2,200 00
<i>Culver Line</i>			
Rentals collected by the Public Service Commission for use of property acquired in the construction of the Culver Line:			
Premises situated in block between 10th and Fort Hamilton avenue, between 37th and 38th streets, Brooklyn.....	96 77		96 77
Total.....			\$893,448 98
TRANSPERENCES			
Amount transferred and applied to Rapid Transit Construction:			
Feb. 3, 1914. Brooklyn real estate and interest therein.....	\$200,000 00		
Jan. 22, 1916. Contract No. 3, real estate and interest therein...	300,000 00		
Sept. 30, 1916. Contract No. 4, real estate and interest therein...	200,000 00		
			700,000 00
Net balance December 31, 1916.....			\$193,448 98

## 1. MANHATTAN-THE BRONX CONTRACT

## LXXX. SECURITY

Statement of the security deposited under provisions of the contract of February 21, 1900, and the agreements amendatory thereof and supplemental thereto, for the construction, maintenance and operation of the Manhattan-The Bronx Rapid Transit Railroad, remaining in the custody of the City of New York December 31, 1916.

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Bond — (continuing). For rental and also for construction deposited with the City Comptroller .....	\$500,000
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## SURETIES

Fidelity and Deposit Company  
of Maryland,  
\$250,000

United States Fidelity and Guar-  
anty Company of Maryland,  
\$250,000

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Bond of the subcontractors for construction, assigned to the City of New York as additional security by John B. McDonald, Contractor, and deposited with the Rapid Transit Board, aggregating .....	\$2,878,250
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## CITY LIEN ON EQUIPMENT

"The City shall also have a first lien upon the equipment of the Railroad as further security for the faithful performance by the Contractor of the covenants, conditions and agreements of the contract of February 21, 1900, and the agreements amendatory thereof and supplemental thereto. Such lien shall arise immediately upon the acquisition by the Contractor of any part of the equipment for use on or in connection with the said railroad or any part of it, or intended for such use, whether or not such equipment be set up or delivered upon or at the railway."

## 2. BROOKLYN-MANHATTAN CONTRACT

LXXX. SECURITY — *Continued*

Statement of the security deposited under provisions of the contract of July 21, 1902, and the agreements amendatory thereof and supplemental thereto, for the construction, maintenance and operation of the Brooklyn-Manhattan Rapid Transit Railroad, remaining in the custody of the City of New York December 31, 1916.

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Bond — (continuing). For rental and also for construction deposited with the City Comptroller. . . . . \$500,000

## SURETIES

United States Fidelity and  
Guaranty Company of Mary-  
land,  
\$125,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$125,000.

The National Surety Com-  
pany of New York,  
\$125,000.

American Surety Company of  
New York,  
\$125,000.

Bond of the subcontractors for construction, assigned to the City of New York as additional security by Rapid Transit Subway Construction Company, Contractor, and deposited with the Rapid Transit Board, aggregating. . . . . \$650,000

## CITY LIEN ON EQUIPMENT

"The City shall also have a first lien upon the equipment of the Railroad as further security for the faithful performance by the Contractor of the covenants, conditions and agreements of the contract of July 21, 1902, and the agreements amendatory thereof and supplemental thereto. Such lien shall arise immediately upon the acquisition by the Contractor of any part of the equipment for use on or in connection with the said railroad or any part of it, or intended for such use, whether or not such equipment be set up or delivered upon or at the railway."

## 3. INTERBOROUGH RAPID TRANSIT COMPANY CONTRACT NO. 3

LXXX. SECURITY — *Continued*

Statement of the security deposited under provisions of the contract of March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction, maintenance and operation of the Dual System of Rapid Transit Railroads, Contract No. 3, Interborough Rapid Transit Company, remaining in the custody of the City of New York December 31, 1916.

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Rond — (continuing). For rental and also for construction deposited  
with the City Comptroller ..... \$1,000,000

## SURETIES

The National Surety Com- pany of New York, \$250,000.	Fidelity and Deposit Com- pany of Maryland, \$225,000.	United States Fidelity and Guaranty Company of Mary- land, \$200,000.
The American Surety Com- pany of New York, \$200,000.	Globe Indemnity Company of New York, \$125,000.	

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Securities deposited with the Comptroller — 2 certificates of coupon corporate stock of the City of New York, aggregating in value a sum exceeding \$1,000,000.

## 4. NEW YORK MUNICIPAL RAILWAY CORPORATION CONTRACT NO. 4

LXXX. SECURITY — *Continued*

Statement of the security deposited under provisions of the contract of March 19, 1913, and the agreements amendatory thereof and supplemental thereto, for the construction, maintenance and operation of the Dual System of Rapid Transit Railroads, Contract No. 4, New York Municipal Railway Corporation, remaining in the custody of the City of New York December 31, 1916.

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Bond — (continuing). For rental and also for construction deposited  
with the City Comptroller..... \$1,000,000

## SURETIES

The National Surety Com-  
pany of New York,  
\$250,000.

United States Fidelity and  
Guaranty Company of Mary-  
land,  
\$75,000.

The American Surety Com-  
pany of New York,  
\$250,000.

New England Casualty Com-  
pany of Massachusetts,  
\$100,000.

The Globe Indemnity Com-  
pany of New York,  
\$75,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$175,000.

Maryland Casualty Company  
of Maryland,  
\$75,000.

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Securities deposited with the Comptroller — Certificate of gold corporate stock of the City of New York, aggregating in value a sum exceeding \$1,000,000.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

## 5. SEVENTH AVENUE BRANCH

LXXX. SECURITY — *Continued*

Statement of security deposited under the provisions of the various contracts for the construction of the Seventh Avenue-Lexington Avenue Line (Seventh Avenue Branch), remaining in the custody of the City of New York December 31, 1916.

Section No. 1 A, from South Ferry to Battery place and Greenwich street, under Battery park.

Rapid Transit Subway Construction Company, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$200,000

Securities deposited with the Comptroller — Two special revenue bonds of the City of New York of a par value of \$200,000.

Section No. 1, under Greenwich street from Battery place to Vesey street.

Rapid Transit Subway Construction Company, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$300,000

Securities deposited with the Comptroller — Two corporate stock notes of the City of New York of a par value of \$300,000.

Section No. 2, under West Broadway from Vesey street to Beach street.

Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$75,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$50,000.

American Surety Company  
of New York,  
\$25,000.

Section No. 3, under Varick street from Beach street to Commerce street.

Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$75,000

## SURETIES

National Surety Company,  
New York,  
\$37,500.

Fidelity and Deposit Com-  
pany of Maryland,  
\$37,500.

Section No. 4, under Seventh avenue, from Commerce street to Sixteenth street.

United States Realty and Improvement Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$150,000

## SURETIES

National Surety Company,  
New York,  
\$100,000.

Globe Indemnity Company,  
New York,  
\$50,000.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

5. SEVENTH AVENUE BRANCH — *Concluded.*LXXX. SECURITY — *Continued*

Section No. 5, under Seventh avenue, from Sixteenth street to Thirtieth street.

United States Realty and Improvement Company, Assignee,  
Contractor.

Bond — For construction, deposited with the City Comptroller..... \$75,000

## SURETIES

Globe Indemnity Company of  
New York,  
\$37,500.

U. S. Fidelity & Guaranty  
Company (Md.),  
\$37,500.

Section No. 6, under Seventh avenue from Thirtieth street to Forty-third street  
Rapid Transit Subway Construction Company, Contractor.

Amount in securities — For construction, deposited with the City  
Comptroller..... \$200,000

Securities deposited with the Comptroller — Two revenue bonds  
of the City of New York of a par value of \$200,000.

Section No. 6-A, under Seventh avenue from Forty-third street to Forty-fifth street.

Holbrook, Cabot & Rollins Corporation, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$400,000

## SURETIES

National Surety Company,  
New York,

\$30,000.

Aetna Accident and Liability  
Company, New York,  
\$62,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$30,000.

American Surety Company of  
New York,  
\$30,000.

London and Lancashire Guar-  
anty & Accident Company,  
\$9,000.

Globe Indemnity Company,  
New York,

\$30,000.

International Fidelity Insur-  
ance Company, New York,  
\$9,000.

Installation of tracks. Seventh Avenue-Lexington Avenue Line, Seventh Avenue  
Branch Routes Nos. 4 and 38, Route 48, and Section 3, of Route 33.

Engel and Hevenor, Contractors.

Bond — For track installation, deposited with the City Comptroller.... \$25,000

## SURETIES

American Surety Company of  
New York,  
\$12,500.

Casualty Company of  
America,  
\$12,500.

Station finish. Routes 4 and 38, Sections 5, 6 and 6a, and Route 43, Section 1 and 2.  
Construction of station finish for a part of the Seventh Avenue-Lexington  
Avenue Line — Seventh Avenue branch, Louis Wechaler, Contractor \$40,000

## SURETIES

National Surety Company of  
New York,  
\$20,000.

Globe Indemnity Company  
of New York,  
\$20,000.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

## 6. PARK PLACE, WILLIAM AND CLARK STREET ROUTE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Park Place, William and Clark Street Rapid Transit Railroad remaining in the custody of the City of New York December 31, 1916.

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Section No. 1, Route 48, under Park place and Beekman street from West Broadway to William street.

Frederick L. Cranford, Inc., Contractor.

Bond — For construction, deposited with the City Comptroller . . . . . \$400,000

## SURETIES

National Surety Company, New York,	Fidelity and Deposit Com- pany of Maryland, \$100,000.	American Surety Company of New York, \$100,000.
Aetna Accident and Liability Company, New York, \$60,000.		Globe Indemnity Company, New York, \$40,000.

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Section No. 2, Route 48, under William street from Beekman street to Old Slip.

Smith, Hauser & MacIsaac, Inc., Contractors.

Bond — For construction, deposited with the City Comptroller . . . . . \$500,000

## SURETIES

Fidelity and Deposit Com- pany of Maryland, \$200,000.	National Surety Company, New York, \$100,000.	Globe Indemnity Company New York, \$100,000.
United States Fidelity and Guaranty Company, New York, \$50,000.		Hartford Accident and In- demnity Company, Hartford, Conn., \$50,000.

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Section No. 3, Route 48, from Old Slip, Manhattan, under East river to Clark and Fulton streets, Brooklyn.

Flinn-O'Rourke Company, Inc., Assignee, Contractor.

Bond — For construction, deposited with the City Comptroller . . . . . \$500,000

## SURETIES

American Surety Company of New York, \$200,000.	Fidelity and Deposit Com- pany of Maryland, \$150,000.	Globe Indemnity Company, New York, \$75,000.
National Surety Company of New York, \$75,000.		

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

## 7. LEXINGTON AVENUE BRANCH

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Lexington Avenue Branch of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad remaining in the custody of the City of New York December 31, 1916.

Section 6, Lexington avenue from East Twenty-sixth street to East Fortieth street.

Bradley Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$350,000

## SURETIES

The Title Guaranty and Surety Company, Scranton, Pa.,	Maryland Casualty Company, Maryland,	United States Fidelity and Guaranty Company of Mary- land,
\$75,000.	\$75,000.	\$75,000.
Fidelity and Deposit Com- pany of Maryland,	Massachusetts Bonding and Insurance Company, Boston, Mass.,	
\$75,000.	\$50,000.	

Section 7, Lexington avenue from East Forty-third street to East Fifty-third street

Rapid Transit Subway Construction Company, Contractor.

Amount in securities — For construction, deposited with the City Comptroller ..... \$200,000

Securities deposited with the Comptroller — 4 certificates of coupon corporate stock of the City of New York, aggregating in value a sum exceeding \$200,000.

Section 8, Lexington avenue from East Fifty-third street to East Sixty-seventh street.

Bradley Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller ..... \$300,000

## SURETIES

American Surety Company of New York,	Massachusetts Bonding and Insurance Company, Boston, Mass.,	United States Fidelity and Guaranty Company of Mary- land,
\$75,000.	\$50,000.	\$75,000.
	Fidelity and Deposit Com- pany of Maryland,	
	\$100,000.	

Section 9, Lexington avenue from East Sixty-seventh street to East Seventy-ninth street.

Patrick McGovern & Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

Massachusetts Bonding and Insurance Company, Boston, Mass.	American Bonding Company of Baltimore, Md.,
\$25,000.	\$25,000.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

7. LEXINGTON AVENUE BRANCH — *Continued*LXXX. SECURITY — *Continued*

Section 10, Lexington avenue from East Seventy-ninth street to East Ninety-third street.

Bradley Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$300,000

## SURETIES

American Surety Company of  
New York,  
\$75,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$100,000.

United States Fidelity and  
Guaranty Company, Balti-  
more, Md.,  
\$75,000.

Massachusetts Bonding and  
Insurance Company, Boston,  
Mass.,  
\$50,000.

Section 11, Lexington avenue from East Ninety-third street to East One Hundred and Sixth street.

Bradley Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$300,000

## SURETIES

American Surety Company of  
New York,  
\$75,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$100,000.

Maryland Casualty Com-  
pany, Baltimore, Md.,  
\$75,000.

Massachusetts Bonding and  
Insurance Company, Boston,  
Mass.,  
\$50,000.

Section 12, Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.

Oscar Daniels Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$400,000

## SURETIES

Luther P. Friestedt, Chicago,  
Ill.,  
\$350,000.

Oscar Daniels, Summit, N. J.,  
\$40,000.

Albert E. Dennis, Chicago,  
Ill.,  
\$10,000.

Bond — For lien of retained payments for construction..... \$200,000

Luther P. Friestedt, Chicago,  
Ill.,

Oscar Daniels, Lake George,  
N. Y.,

Albert E. Dennis, Chicago,  
Ill.,

Section 13, Lexington avenue from East One Hundred and Eighteenth street to East One Hundred and Twenty-ninth street.

Bradley Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$400,000

## SURETIES

American Surety Company of  
New York,  
\$75,000.

American Bonding Company  
of Baltimore, Md.,  
\$75,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$50,000.

Maryland Casualty Company,  
Baltimore, Md.,  
\$75,000.

Massachusetts Bonding and  
Insurance Company, Boston,  
Mass.,  
\$50,000.

Equitable Surety Company,  
St. Louis, Mo.,  
\$75,000.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

7. LEXINGTON AVENUE BRANCH — *Continued*LXXX. SECURITY — *Continued*

Section 14, from Lexington avenue and East One Hundred and Twenty-ninth street in the Borough of Manhattan, under Lexington avenue and Harlem river, to Mott avenue, Borough of The Bronx.

Arthur McMullen and Olaf Hoff, Contractors.

Arthur McMullen & Hoff Company, Assignees.

Bond — For construction, deposited with the City Comptroller..... \$100,000

## SURETIES

American Surety Company of  
New York,  
\$50,000.

Massachusetts Bonding and  
Insurance Company, Boston,  
Mass.,  
\$50,000.

Section 15, Mott avenue and East One Hundred and Thirty-eighth street from East One Hundred and Thirty-fifth street to East One Hundred and Fifty-seventh street and to Alexander avenue.

Rodgers and Hagerty, Inc., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$500,000

## SURETIES

American Bonding Company  
of Baltimore, Md.,  
\$100,000.  
Equitable Surety Company,  
St. Louis, Mo.,  
\$75,000.

The National Surety Com-  
pany of New York,  
\$100,000.  
American Surety Company of  
New York,  
\$75,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$75,000.  
Maryland Casualty Com-  
pany, Baltimore, Md.,  
\$75,000.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

7. LEXINGTON AVENUE BRANCH — *Concluded*LXXX. SECURITY — *Continued*

Station finish. Construction of station finish of a portion of the Seventh Avenue.  
Lexington Avenue Rapid Transit Railroad (Route 5, Sections Nos. 7 to 11 inclusive)

John B. Roberts & Co., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$40,000

## SURETIES

National Surety Company of  
New York,  
\$25 6.67.

Hartford Accident and In-  
demnity Company, Hartford,  
Conn.,  
\$13,333.33.

Station finish. Construction of station finish of a portion of the Seventh Avenue-  
Lexington Avenue Rapid Transit Railroad (Route 5, Sections Nos. 12 to 15).

A. W. King & Co., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$40,000

## SURETIES

Globe Indemnity Company of  
New York,  
\$20,000.

United States Fidelity and  
Guaranty Company of New  
York,  
\$20,000.

Installation of tracks — Contract for the installation of tracks for a portion of the  
Seventh Avenue-Lexington Avenue Line on Lexington and Jerome avenues, Routes  
Nos. 43, 5 and 16.

Bond — For installation of tracks, deposited with the City Comptroller \$35,000

## SURETIES

National Surety Company of  
New York,  
\$17,500.

Globe Indemnity Company of  
New York,  
\$17,500.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

## 8. JEROME AVENUE BRANCH

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Jerome Avenue Branch of the Seventh Avenue-Lexington Avenue Rapid Transit Railroad remaining in the custody of the City of New York December 31, 1916.

Section 1, Route 16, Jerome avenue from One Hundred and Fifty-seventh street to One Hundred and Eighty-second street.

Oscar Daniels Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$100,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$90,000.

Globe Indemnity Company  
of New York,  
\$10,000.

Section 2, Jerome avenue from One Hundred and Eighty-second street to Wood-lawn road.

Cooper & Evans Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$100,000

## SURETIES

National Surety Company of  
New York,  
\$33,333.34.

Globe Indemnity Company of  
New York,  
\$33,333.33.

Massachusetts Bonding and  
Insurance Company, Boston,  
Mass.,  
\$33,333.33.

Station finish, Jerome Avenue Line, Route 16, Sections 1 and 2; White Plains Road Line, Route 18, Sections 1 and 2.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

Maryland Casualty Com-  
pany,  
\$16,666.67.

United States Fidelity and  
Guaranty Company,  
\$16,666.67.

Fidelity and Deposit Com-  
pany of Maryland,  
\$16,666.66.

One Hundred and Fifty-seventh Duct Line — Construction of a railroad duct line, Walton avenue and East One Hundred and Fifty-seventh street.

T. H. Reynolds Constructing Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$1,000

## SURETIES

Hartford Accident and In-  
demnity Company, Hartford,  
Conn.,  
\$500.

National Surety Company of  
New York,  
\$500.

## SEVENTH AVENUE-LEXINGTON AVENUE LINE

## 9. SOUTHERN BOULEVARD-WESTCHESTER AVENUE ROUTE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Southern Boulevard-Westchester Rapid Transit Railroad remaining in the custody of the City of New York December 31, 1916.

Section 1, Routes 19 and 22, from East One Hundred and Thirty-eighth street about 100 feet east of Alexander avenue, under East One Hundred and Thirty-eighth street, private property and Southern boulevard to East One Hundred and Forty-seventh street.

John F. Stevens Construction Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$75,000

## SURETIES

National Surety Company of  
New York,  
\$62,500.

Southwestern Surety Insur-  
ance Company of Oklahoma,  
\$12,500.

Section 1-A, Southern boulevard and Whitlock avenue and One Hundred and Forty-seventh street to Bancroft street.

Rodgers & Hagerty, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$150,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$140,000.

Globe Indemnity Company  
of New York,  
\$10,000.

Section 2, Routes 19 and 22, Westchester avenue, Bancroft street to Eastern boulevard.

Lawrence C. Manuell, Contractor. †

Bond — For construction, deposited with the City Comptroller..... \$200,000

## SURETIES

National Surety Company of  
New York,  
\$55,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$25,000.

London and Lancashire In-  
demnity Company of America,  
\$25,000.

Royal Indemnity Company,  
\$25,000.

Southern Surety Insurance  
Company,  
\$20,000.

Globe Indemnity Company of  
New York,  
\$25,000.

Hartford Accident and In-  
demnity Company,  
\$25,000.

† Assigned to Flick and Manuell Construction Company, and later forfeited and to be completed by the City of New York, acting by the Public Service Commission.

## 10. WHITE PLAINS ROAD LINE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the White Plains Road Line remaining in the custody of the City of New York December 31, 1916.

Section 1, Route 18, from Bronx Park and White Plains road, One Hundred and Seventy-ninth street to Burke avenue.

Oscar Daniels Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$100,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$90,000.

Globe Indemnity Company  
of New York,  
\$10,000.

Section 2, Route 18, from White Plains road and Burke avenue to Two Hundred and Forty-first street.

Alfred P. Roth, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$100,000

## SURETIES

The National Surety Com-  
pany of New York,  
\$25,000.

New England Casualty Com-  
pany,  
\$25,000.

Equitable Surety Company,  
St. Louis, Mo.,  
\$25,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$12,500.

U. S. Fidelity and Guaranty  
Company (Md.),  
\$12,500.

One Hundred and Eightieth Street Storage Yard.— Construction of a part of the White Plains Road Line, Route 18, One Hundred and Eightieth Street Yard.

Thomas J. Buckley Construction Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$25,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$12,500.

United States Fidelity and  
Guaranty Company,  
\$12,500.

Two Hundred and Thirty-ninth Street Yard.— Construction of a part of the White Plains Road Line, Route 18, Two Hundred and Thirty-ninth Street Yard.

Thomas J. Buckley Construction Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$25,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$12,500.

United States Fidelity and  
Guaranty Company,  
\$12,500.

Installation of tracks. Contract for installing tracks on the White Plains Road Line.

Coast and Lakes Contracting Corporation, Contractor.

Bond — Deposited with the City Comptroller..... \$15,000

## SURETIES

Globe Indemnity Company of  
New York,  
\$7,500.

Hartford Accident and In-  
demnity Company, Hartford,  
\$7,500.

## 11. STEINWAY TUNNEL LINE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Steinway Tunnel Line remaining in the custody of the City of New York December 31, 1916.

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Route 26, reconstruction Steinway Tunnel from Madison avenue and Forty-second street, Manhattan, under East river to Davis street, Queens.

Rapid Transit Subway Construction Company, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$150,000  
 Corporate stock notes of the City of New York, aggregating in value a sum exceeding \$150,000.

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Route 50, Davis street and Ely avenue, Van Alst avenue to Bridge plaza.

Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller ..... \$50,000

## SURETIES

National Surety Company  
 of New York,  
 \$25,000.

Fidelity and Deposit Com-  
 pany of Maryland,  
 \$25,000.

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Section 1, Routes 36 and 37, Plaza, Jackson and Second avenues, Ely avenue to Beebe avenue and Queens boulevard, Jackson avenue to Van Dam street.

The Snare & Triest Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

American Surety Company of  
 New York,  
 \$37,500.

Massachusetts Bonding and  
 Insurance Company of Mas-  
 sachusetts,  
 \$12,500.

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Section 2, Routes 36 and 37, Second avenue, Beebe avenue to Ditmars avenue.

Cooper & Evans Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

National Surety Company of  
 New York,  
 \$25,000.

Globe Indemnity Company  
 of New York,  
 \$25,000.

11. STEINWAY TUNNEL LINE — *Continued*LXXX. SECURITY — *Continued*

Section 3, Routes 36 and 37, Queens boulevard and Roosevelt avenue, Van Dam street to Alburdis avenue.

E. E. Smith Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$25,000.

American Surety Company of  
New York,  
\$25,000.

Diagonal station connection, Forty-second street and Lexington avenue, Routes 43 and 26.

Rapid Transit Subway Construction Company, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$500,000

Securities deposited with the Comptroller — Corporate stock of the City of New York of a par value of \$500,000.

Station finish, Steinway Line, Routes 36 and 37, Section 2, Queensboro Subway.

Charles Meads and Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$25,000

## SURETIES

National Surety Company,  
of New York  
\$15,000.

New England Equitable In-  
surance Company,  
\$10,000.

Station finish, Steinway Line, Routes 36 and 37, Sections 1 and 3.

Snare & Triest Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

Casualty Company of Amer-  
ica,  
\$25,000.

International Fidelity Insur-  
ance Company,  
\$25,000.

Installation of tracks, Steinway Line, Routes 36 and 37, and 50.

Thomas Crimmins Contracting Company, Contractor.

Bond — For construction, deposited with City Comptroller..... \$25,000

## SURETIES

United States Fidelity and  
Guaranty Company,  
\$12,500.

Globe Indemnity Company,  
\$12,500.

11. STEINWAY TUNNEL LINE — *Concluded*LXXX. SECURITY — *Continued*

Station finish, Route 26. Construction of station finish for Grand Central station in Queensboro subway.

Thomas J. Gates Co., Contractor.

Bond — For construction, deposited with the City Comptroller. . . . . \$2,000

## SURETIES

American Fidelity Company,  
Montpelier, Vt.,  
\$1,000.

International Fidelity Insurance Company,  
\$1,000.

Hunters Point Avenue Station. Completion of permanent station finish at Hunters Point Avenue station, Route No. 5.

Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller. . . . . \$10,000

## SURETIES

National Surety Company of  
New York

Fidelity and Deposit Company of Maryland

Signal towers, Jerome avenue, White Plains Road and Queensboro Lines, Routes Nos. 16 and 18, 36 and 37. Construction of signal towers.

H. G. Stowe Construction Company.

Bond — For construction, deposited with the City Comptroller. . . . . \$7,000

## SURETIES

National Surety Company of  
New York, \$5,000.

Aetna Accident and Liability Company, \$2,000.

Construction of storm drain, Steinway Line, Queensboro Subway.

Murphy Bros., Contractor.

Bond — For construction, deposited with the City Comptroller. . . . . \$3,000

## SURETIES

New England Equitable Insurance Company,  
\$1,500.

Casualty Company of America,  
\$1,500.

Station finish, Steinway Line, Hunters Point Avenue Station.

Station Construction Company, Contractor.

Bond — For construction, deposited with the City Comptroller. . . . . \$500

## SURETIES

Casualty Company of America,  
\$250.

Southwestern Surety Insurance Company,  
\$250.

## 12a. EASTERN PARKWAY LINE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Eastern Parkway Rapid Transit Railroad, remaining in the custody of the City of New York December 31, 1916.

Route 12, Section 1, under Flatbush avenue and St. Felix street, Fulton street to Prospect place.

Cranford Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$200,000

## SURETIES

American Surety Company of  
New York, \$75,000.

Globe Indemnity Company,  
New York, \$50,000.

Fidelity and Deposit Com-  
pany of Maryland, \$50,000.

National Surety Company,  
New York \$25,000.

Route 12, Section 1-A, under Flatbush avenue, from Prospect place to Plaza street.

Cranford Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$200,000

## SURETIES

American Surety Company,  
New York, \$66,666.67.

Fidelity and Deposit Com-  
pany of Maryland, \$66,666.67.

National Surety Company  
New York, \$66,666.66.

Route 12, Section 2, under Eastern Parkway from Prospect Park plaza to Nostrand avenue.

Inter-Continental Construction Corporation, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$250,000

## SURETIES

Maryland Casualty Com-  
pany, \$62,000.

United States Fidelity and  
Guaranty Company, Balti-  
more, Md., \$47,000.

Fidelity and Deposit Com-  
pany of Maryland, \$47,000.

National Surety Company,  
of New York, \$25,000.

Globe Indemnity Company,  
New York, \$47,000.

Royal Indemnity Company,  
\$22,000.

12a. EASTERN PARKWAY LINE — *Concluded*LXXX. SECURITY — *Continued*

Route 12, Section No. 3, under Eastern parkway, Nostrand avenue to Buffalo avenue.

Rodgers & Hagerty, Inc., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$200,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$150,000.

National Surety Company,  
of New York,  
\$25,000.

Globe Indemnity Company  
of New York,  
\$25,000.

Route 29, Section 1, Nostrand avenue, Eastern parkway to Church avenue.

Newman & Carey Subway Construction Company, Inc., Assignee, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$200,000

## SURETIES

Henry Roth,  
\$200,000.

Sylvan Levy,  
\$50,000.

Benjamin Levy,  
\$50,000.

Route 29, Section 2, Nostrand avenue, Church avenue to Flatbush avenue.

Dock Contractor Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$175,000

## SURETIES

National Surety Company,  
of New York,  
\$100,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$50,000.

International Fidelity Insur-  
ance Company,  
\$25,000.

12b. BROADWAY-FOURTH AVENUE LINE  
(ROUTE 12, FLATBUSH AVENUE ROUTE)

LXXX. SECURITY — *Continued*

Section 1-b under L. I. R. R., Hanson place to connection with Section 1-a at Flatbush avenue.

Degnon Contracting Co., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$200,000

SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$100,000.

National Surety Company  
of New York  
\$100,000.

Section 2-a under Flatbush avenue, from Prospect Park plaza to Malbone street.  
Degnon Contracting Co.

Bond — For construction, deposited with the City Comptroller..... \$100,000

SURETIES

National Surety Company,  
New York,  
\$50,000.

American Surety Company,  
New York,  
\$50,000.

## 13. BROADWAY-FOURTH AVENUE LINE (BROADWAY BRANCH)

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Broadway Subway remaining in the custody of the City of New York December 31, 1916.

Section 1, from Trinity place, near Morris street, under Trinity place and Church street to Dey street.

Frederick L. Cranford, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$75,000

Securities deposited with the Comptroller — 75 certificates of coupon corporate stock of the City of New York, aggregating in value a sum exceeding \$75,000.

Section 1-A, under Church street, north of Dey street, private property; Vesey street, private property to Broadway between Vesey street and Barclay street; thence under Broadway to Park place.

Frederick L. Cranford, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$50,000

Securities deposited with the Comptroller — 50 certificates of coupon corporate stock of the City of New York, aggregating in value a sum exceeding \$50,000.

Section 2, under Broadway, from Park place to Walker street.

Degnon Contracting Company, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$75,000

## SURETIES

Fidelity and Deposit Company of Maryland,  
\$37,500.

National Surety Company,  
New York,  
\$37,500.

Section 2-A, under Broadway, from Walker street to Howard street.

O'Rourke Engineering Construction Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

National Surety Company of  
New York,  
\$25,000.

American Bonding Company  
of Baltimore, Md.,  
\$25,000.

## 13. BROADWAY-FOURTH AVENUE LINE (BROADWAY BRANCH) —

*Concluded*LXXX. SECURITY — *Continued*

Section 3, under Broadway, from Howard street to Bleecker street.

The Underpinning and Foundation Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$60,000

## SURETIES

Globe Indemnity Company,  
New York,  
\$40,000.United States Fidelity and  
Guaranty Company,  
\$20,000.

Section 4, under Broadway, from Bleecker street to Union square.

Dock Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$75,000

## SURETIES

International Fidelity Insur-  
ance Company of N. J.,  
\$25,000.Casualty Company of Amer-  
ica,  
\$25,000.Southwestern Surety Insur-  
ance Company of Oklahoma,  
\$25,000.

Station finish, Broadway Route No. 5, Sections 1 to 4.

D. C. Serber, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$40,000

## SURETIES

Hartford Accident and In-  
demnity Company, Hartford,  
Conn.,  
\$20,000.Aetna Accident and Liability  
Company of New York,  
\$20,000.

**14. BROADWAY-FOURTH AVENUE LINE  
(BROADWAY-FIFTY-NINTH STREET ROUTE)**

**LXXX. SECURITY — Continued**

Statement of the security deposited under the provisions of the various contracts for the construction of the Broadway-Fifty-ninth Street Rapid Transit Railroad remaining in the custody of the City of New York December 31, 1916.

Section 1, Routes 4 to 36, under Broadway, Union square to Twenty-sixth street.

E. E. Smith Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$75,000

**SURETIES**

Fidelity and Deposit Com-  
pany of Maryland,  
\$50,000.

American Surety Company  
of New York,  
\$25,000.

Section 2, Routes 4 and 36, under Broadway from Twenty-sixth street to Thirty-eighth street.

United States Realty and Improvement Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$225,000

**SURETIES**

Casualty Company of America  
(N. Y.),  
\$62,000.

New England Casualty Com-  
pany (N. Y.),  
\$75,500.  
International Fidelity Insur-  
ance Company,  
\$37,500.

United States Guarantee  
Company, New York,  
\$50,000.

Section 3, Routes 4 and 36, under Broadway and Seventh avenue, from Thirty-eighth street to Fifty-first street.

Holbrook, Cabot & Rollins Corporation, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$600,000

**SURETIES**

National Surety Company,  
\$200,000.

Massachusetts Bonding and  
Insurance Company,  
\$100,000.

New England Equitable  
Insurance Company,  
\$100,000.

Globe Indemnity Company,  
\$100,000.

Aetna Accident and Liability  
Company,  
\$50,000.

Hartford Accident and In-  
demnity Company,  
\$50,000.

Section 4, Routes 4 and 36, under Seventh avenue, from Fifty-first to Fifty-ninth street.

Litchfield Construction Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$200,000

**SURETIES**

United States Fidelity and  
Guaranty Company,  
\$100,000.

Globe Indemnity Company,  
\$100,000.

Section 5, Routes 4 and 36, under Fifty-ninth and Sixtieth streets from Seventh avenue to Second avenue.

Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$300,000

**SURETIES**

American Surety Company of  
New York,  
\$100,000.

National Surety Company,  
New York,  
\$100,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$100,000.

**14. BROADWAY-FOURTH AVENUE LINE — *Concluded***  
**(BROADWAY-FIFTY-NINTH STREET ROUTE) — *Concluded***

**LXXX. SECURITY — *Continued***

Station finish. Construction of station finish, at Twenty-third street, Twenty-eighth street, and Broadway. Stations of Routes 4 and 36, and Route 20.

Serber-Stander Co., Inc., Contractors.

Bond — For construction, deposited with the City Comptroller..... \$20,000

**SURETIES**

National Surety Company of  
New York,  
\$10,000.

Aetna Accident and Liability  
Company, New York,  
\$10,000.

**(BLACKWELL'S ISLAND TUNNEL, ROUTE No. 61)**

Route 61. Sixtieth street, Manhattan to North Jane street, Queens.

Patrick McGovern & Co., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$400,000

**SURETIES**

Massachusetts Bonding and  
Insurance Company,  
\$100,000.  
Globe Indemnity Company,  
New York,  
\$100,000.

American Surety Company of  
New York,  
\$100,000.  
United States Fidelity and  
Guaranty Company, New  
York,  
\$100,000.

# 15. BROOKLYN-MANHATTAN LOOP LINES (MANHATTAN SECTIONS) CONTRACTS

## LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Brooklyn-Manhattan Loop Lines (Manhattan Sections) remaining in the custody of the City of New York December 31, 1916.

Section 9-0-1, Centre street from Pearl street to Park Row.

Bradley Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$160,000

### SURETIES

The Title Guaranty and Surety  
Company, Scranton, Pa.,  
\$55,000.

\* The National Surety Com-  
pany of New York,  
\$55,000.

People's Surety Company,  
New York,  
\$50,000.

Bond — For construction deposited with the City Comptroller..... \$50,000

### SURETIES

Globe Indemnity Company,  
New York,  
\$25,000.

United States Fidelity and  
Guaranty Company, New  
York,  
\$25,000.

Section 9-0-2, Centre street from Pearl street to Canal street.

The Dignon Contracting Company, Contractor.

Bond (continuing)— Deposited with the City Comptroller..... \$300,000

### SURETIES

Bankers' Surety Company,  
Cleveland, Ohio,  
\$55,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$40,000.

Massachusetts Bonding and  
Insurance Company, Boston,  
Mass.,  
\$50,000.

The National Surety Com-  
pany of New York,  
\$40,000.

The Title Guaranty and Surety  
Company, Scranton, Pa.,  
\$75,000.

Section 9-0-4, new extension of Delancey street from Centre street to the Bowery.

Bradley Contracting Company, Contractor.

Section 9-0-5, Delancey street between the Bowery and Norfolk street.

Bradley Contracting Company, Contractor.

Bond (continuing)— Deposited with the City Comptroller..... \$50,000

### SURETY

The Title Guaranty and Surety  
Company, Scranton, Pa.,  
\$50,000.

\* A surety bond of \$55,000, formerly deposited by the Empire State Surety Company of New York, was reinsured by The National Surety Company of New York.

## 15. BROOKLYN-MANHATTAN LOOP LINES (MANHATTAN SECTIONS)

CONTRACTS — *Concluded*LXXX. SECURITY — *Continued*

Section 9-O-3, Centre street from Canal street to Broome street.

Cranford Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$150,000

## SURETIES

Empire State Surety Company  
of New York,  
\$50,000.Title Guaranty and Surety  
Company, Scranton, Pa.,  
\$50,000.People's Surety Company,  
New York,  
\$50,000.Changes at Chambers Street station, Brooklyn-Manhattan Loop Lines. Removal  
of stairway Chambers Street station.

The Snare &amp; Triest Co., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$500

## SURETIES

Globe Indemnity Company of  
New York,  
\$250.United States Fidelity and  
Guaranty Company of New  
York,  
\$250.

## BROADWAY-FOURTH AVENUE LINE

## 16. BROOKLYN (FOURTH AVENUE) CONTRACTS

LXXX. SECURITY — *Continued*Statement of the security deposited under the provisions of the various contracts  
for the construction of the Brooklyn (Fourth Avenue) Subway remaining in the  
custody of the City of New York December 31, 1916.Modifying agreements under contract for Section 9-C-1, Willoughby street to  
Ashland place.

William Bradley, Contractor.

Section 11-E-1 and 11-A-1, Ashland place to Sackett street.

William Bradley, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$150,000

## SURETIES

United States Fidelity and  
Guaranty Company of Mary-  
land,  
\$62,500.Hartford Accident and In-  
demnity Company,  
\$25,000.Globe Indemnity Company  
New York,  
\$62,500.

Section 11-A-2, Sackett street to Tenth street.

Section 11-A-4, Twenty-seventh street to Forty-second street.

E. E. Smith Contracting Company, Contractor.

Bond (continuing)—Deposited with the City Comptroller..... \$50,000

## SURETY

Fidelity and Deposit Com-  
pany of Maryland,  
\$50,000.

## BROADWAY-FOURTH AVENUE LINE

16. BROOKLYN (FOURTH AVENUE) CONTRACTS — *Concluded*LXXX. SECURITY — *Continued*

Section 11-B-1, Fortieth street to Sixty-first street.

The Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$40,000

## SURETIES

American Surety Company of  
New York,  
\$13,333.National Surety Company of  
New York,  
\$13,334.Fidelity and Deposit Com-  
pany of Maryland,  
\$13,333.

Section 11-B-2, Sixty-first street to Eighty-ninth street.

The Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

## SURETIES

American Surety Company of  
New York,  
\$16,667.National Surety Company of  
New York,  
\$16,668.Fidelity and Deposit Com-  
pany of Maryland,  
\$16,667.

Track installation, Broadway-Fourth Avenue Line, Route 39, Section 2 (New Utrecht avenue).

Ward &amp; Tully, Inc., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$7,135 50

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$3,567.75.Globe Indemnity Company,  
\$3,567.75.

Reconstruction of platform edges at stations on Fourth Avenue Subway, Brooklyn.

Irving Iron Works, Contractor.

Amount in securities — For construction, deposited with City Comptroller.

(Certified check for \$500)..... \$500

Completion of construction and station finish on a part of the Fourth Avenue Subway, Brooklyn.

D. C. Serber, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$10,000

## SURETIES

Equitable Surety Company,  
\$5,000.Hartford Accident and In-  
demnity Company,  
\$5,000.

**BROADWAY-FOURTH AVENUE LINE**  
**17. NEW UTRECHT AVENUE CONTRACTS**

**LXXX. SECURITY — Continued**

Statement of the security deposited under the provisions of the various contracts for the construction of the New Utrecht Avenue Line remaining in the custody of the City of New York December 31, 1916.

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Section 2, Route 39, New Utrecht avenue, Eighty-sixth street and Stillwell avenue, Thirty-ninth street to Coney Island.

Post & McCord, Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$100,000

Securities deposited with the Comptroller — 101 certificates of coupon corporate stock of the City of New York, aggregating in value a sum exceeding \$100,000.

Station finish, Broadway-Fourth Avenue Line.

Route 39, Section No. 2 (New Utrecht Avenue).

A. L. Guidone & Son, Inc., Contractor.

Bond — For construction, deposited with the City Comptroller..... \$50,000

**SURETIES**

Casualty Company of America,  
\$25,000.

Illinois Surety Company,  
\$25,000.

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Section 2, Route 39, continuing bond — deposited with the City Comptroller..... \$30,000

As security against claims arising from the prosecution of the work which were unsatisfied or had not been presented at the time of final certificate of completion of work.

## BROADWAY-FOURTH AVENUE LINE

## 18. WHITEHALL-MONTAGUE STREET ROUTE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Whitehall-Montague Street Rapid Transit Railroad remaining in the custody of the City of New York December 31, 1916.

Section 1, Route 33, under Whitehall street from Battery place to South street, Manhattan.

Booth & Flinn, Ltd., Contractor.

Bond — For construction, deposited with the City Comptroller ..... \$200,000

## SURETIES

United States Guarante Company, New York,	Casualty Company of Amer- ica,	International Fidelity Insur- ance Company,
\$50,000.	\$50,000.	\$37,500.
American Fidelity Company,	Southwestern Surety Insur- ance Company of Oklahoma,	
\$37,500.	\$25,000.	

Section 2, Route 33, under the East river from Whitehall street, Manhattan, to Montague street, Brooklyn.

Flinn-O'Rourke Company, Inc., Assignee, Contractor.

Bond — For construction, deposited with the City Comptroller ..... \$500,000

## SURETIES

American Surety Company of New York,	Fidelity and Deposit Com- pany of Maryland,	Globe Indemnity Company, New York,
\$200,000.	\$150,000.	\$75,000.
	National Surety Company, New York,	
	\$75,000.	

Section 3, Route 33, under Montague street, Fulton street and Willoughby street, from Clinton street to Flatbush avenue extension, Brooklyn.

Flinn-O'Rourke Company, Inc., Contractor.

Bond — For construction, deposited with the City Comptroller ..... \$350,000

## SURETIES

American Surety Company of New York,	Fidelity and Deposit Com- pany of Maryland,	National Surety Company New York,
\$37,500.	\$125,000.	\$50,000.
	United States Fidelity and Guaranty Company, New York,	
	\$37,500.	

## BROADWAY-FOURTH AVENUE LINE

## 19. CANAL STREET ROUTE

LXXX. SECURITY — *Continued*

Statement of the security deposited under the provisions of the various contracts for the construction of the Canal street route remaining in the custody of the City of New York December 31, 1916.

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Section 2, Route 20, under Canal street, from Broadway to Bowery.

Underpinning and Foundation Company, Contractor.

Bond — For construction, deposited with the City Comptroller . . . . . \$300,000

## SURETIES

Globe Indemnity Company,  
New York,  
\$100,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$75,000.

United States Fidelity and  
Guaranty Company, New  
York,  
\$75,000.

Massachusetts Bonding and  
Insurance Company,  
\$50,000.

## CULVER LINE

## 20. GRAVESEND AVENUE ROUTE

LXXX. SECURITY — *Continued*

Route 49, Section 1 — Gravesend avenue, Thirty-seventh street to Bay Parkway.

Post & McCord, Inc., Contractor.

Amount in securities — For construction, deposited with the City Comptroller..... \$100,000

Securities deposited with the Comptroller — 39 certificates of coupon corporate stock of the City of New York, aggregating in value a sum exceeding \$100,000.

Route 49, Section 2 — Gravesend avenue and Shell road, Twenty-second avenue to Avenue X.

Oscar Daniels Company, Contractor.

Bond — For construction, deposited with the City Comptroller.

## SURETIES

Fidelity and Deposit Company of Maryland,  
\$90,000.

Globe Indemnity Company,  
New York,  
\$10,000.

Route 49, Section 1 — Installation of tracks.

Kaufman & Garcey, Contractors.

Bond — For installation of tracks, deposited with the City Comptroller \$15,000

## SURETIES

National Surety Company of New York,  
\$7,500.

Globe Indemnity of New York,  
\$7,500.

Route 49, Sections 1 and 2 — Construction of concrete track floors and platforms, Gravesend avenue, Route 49.

The Snare & Triest Company.

Bond — For construction, deposited with the City Comptroller..... \$2,000

## SURETIES

Globe Indemnity Company of New York,  
\$1,000.

Fidelity and Deposit Company, Maryland,  
\$1,000.

## 21. FOURTEENTH STREET-EASTERN LINE

LXXX. SECURITY — *Continued*

Route 8, Section 1 — Under Fourteenth street from Sixth avenue to Irving place  
Booth & Flinn, Ltd., Contractors.

Bond — For construction, deposited with the City Comptroller..... \$500,000

## SURETIES

American Surety Company of  
New York,  
\$100,000.

United States Fidelity and  
Guaranty Company, New  
York,  
\$100,000.

Hartford Accident and In-  
demnity Company,  
\$50,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$100,000.

Globe Indemnity Company,  
New York,  
\$100,000.

Massachusetts Bonding and  
Insurance Company,  
\$50,000.

Route 8, Section 2 — Under Fourteenth street from Irving place to Avenue B.

Degnon Contracting Company, Contractor.

Bond — For construction, deposited with the City Comptroller..... \$175,000

## SURETIES

National Surety Company of  
New York,  
\$87,500.

Fidelity and Deposit Com-  
pany of Maryland,  
\$87,500.

Route 8, Section 3 — From under Fourteenth street, Avenue B, Manhattan, to  
North Seventh street, Brooklyn.

Booth & Flinn, Ltd., Contractors.

Bond — For construction, deposited with the City Comptroller..... \$500,000

## SURETIES

American Surety Company of  
New York,  
\$100,000.

United States Fidelity and  
Guaranty Company of New  
York,  
\$100,000.

Hartford Accident and In-  
demnity Company, Hartford,  
Conn.,  
\$100,000.

Fidelity and Deposit Com-  
pany of Maryland,  
\$100,000.

Globe Indemnity Company of  
New York,  
\$100,000.

21. FOURTEENTH STREET-EASTERN LINE — *Continued*LXXX. SECURITY — *Continued*

Route 8, Section 4 — From North Seventh street and Metropolitan avenue, Bedford avenue to Manhattan avenue, Brooklyn.

MacArthur Bros., Inc., assigned to Mason & Hanger Company, Contractors.

Bond — For construction, deposited with the City Comptroller . . . . . \$150,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$50,000.

Hartford Accident and In-  
demnity Company, Hartford,  
Conn.,  
\$50,000.

American Surety Company of  
New York,  
\$50,000.

Route 8, Section 5 — Metropolitan and Bushwick avenue, Manhattan avenue to Meserole street.

MacArthur Bros., Inc., assigned to Mason & Hanger Company, Contractors.

Bond — For construction, deposited with the City Comptroller . . . . . \$100,000

## SURETIES

Fidelity and Deposit Com-  
pany of Maryland,  
\$32,332.32.

Hartford Accident and In-  
demnity Company, Hartford,  
Conn.,  
\$32,332.32.

American Surety Company of  
New York,  
\$32,332.32.

# RAPID TRANSIT RAILROAD RENTAL

## LXXXI. 3. MANHATTAN-THE BRONX

Statement showing the payments made under the direction of the City Comptroller for interest due on the corporate stock issued by the City of New York, for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad and the rental received by the City Comptroller from the Interborough Rapid Transit Company under a lease by the City of New York of the Manhattan-The Bronx Rapid Transit Railroad constructed under the contract with John B. McDonald, contractor, dated February 21, 1900, and the agreements amendatory thereof and supplemental thereto assigned to the Interborough Rapid Transit Company from February 21, 1900, to December 31, 1916.

RENTAL						* INTEREST ON CORPORATE STOCK		
Due	Date received	From	Payments to sinking fund	For interest on corporate stock	Total	For what	Due	Amount
1916 Jan. 30	1916 Feb. 7	Amount in rental received by the City Comptroller from The Interborough Rapid Transit Company to December 31, 1916.....	\$4,907,106 44	\$16,809,256 80	\$21,776,453 30	Amount in interest paid by the City Comptroller to December 31, 1916.....		\$17,251,232 10
April 30	April 29	Interborough Rapid Transit Company.....		\$412,633 17		The payment of interest due on corporate stock issued by the City of New York for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad.....	Mar. 1, 1916..... May 1, 1916..... June 1, 1916..... Sept. 1, 1916..... Oct. 1, 1916..... Dec. 1, 1916.....	\$44,403 24 \$19,551 04 96 75 44,403 24 323 16 96 75 \$19,551 04
July 30	July 29	Interborough Rapid Transit Company.....		412,666 01		Interest on notes issued in anticipation of sale of corporate stock.....		
Oct. 30	Nov. 1	Interborough Rapid Transit Company.....		412,735 06		Amount in interest paid by the City Comptroller on the corporate stock issued by the City of New York for the construction and operation of the Manhattan-The Bronx Rapid Transit Railroad to December 31, 1916.....	Jan.-Dec., 1916....	84 76
Oct. 31	Dec. 29	Total amounts in rental received by the City Comptroller from the Interborough Rapid Transit Company under a lease by the City of New York of the Manhattan-The Bronx Rapid Transit Railroad to December 31, 1916.....	\$468,855 49	1,059,531 28	2,129,386 77			
		Total.....			\$23,905,840 07	Total.....		\$18,979,792 17

• Additional payments in interest on corporate stock issued for rapid transit construction remain unallotted.

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## LXXXII. TRUST FUND ACCOUNTS

1. Statement relative to funds collected by the Public Service Commission for the First District, New York, and paid into the city treasury to the credit of the General Fund.

ACCOUNT		
<b>A. Miscellaneous Supplies Account</b>		
January 1, 1916, to December 31, 1916. Total proceeds of the sales of contracts, drawings, reports and records, etc., of the Public Service Commission of the First District .....		\$4,479 39
<b>B. Gas Meter Account</b>		
January 1, 1916, to December 31, 1916. Net amount collected from various complaints for fees charged for the testing of gas meters by the Public Service Commission for the First District .....	\$750 75	
January 1, 1916, to December 31, 1916. Total amount collected from the various gas companies, in payments for tests of gas meters, by the Public Service Commission for the First District .....	579 00	1,329 75
<b>C. Electric Meter Account</b>		
January 1, 1916, to December 31, 1916. Net amount collected from the various complainants for fees charged for the testing of electric meters by the Public Service Commission for the First District .....	\$884 80	
January 1, 1916, to December 31, 1916. Total amount collected from the various electric companies in payment of tests of electric meters by the Public Service Commission for the First District .....	58 00	942 00
<b>D. Official Fees Account</b>		
January 1, 1916, to December 31, 1916. Net amount collected in payment of subpoena and witness fees to credit of General Fund .....	\$281 23	
Net amount collected in payment of fees and costs in litigation to credit of General Fund .....	249 40	480 63
		<u>\$7,231 77</u>

2. Statement relative to funds received by the Public Service Commission for the First District, New York, and deposited with the City Chamberlain awaiting determination of pending litigation.

<b>A. Litigation Account</b>		
January 1, 1916, to December 31, 1916. Total amount received in costs and fees in pending litigation of the Public Service Commission, First District, and deposited with the City Chamberlain .....	\$128 12	
Total amount .....		<u>\$128 12</u>

## LXXXIII. RECAPITULATION

## 1. GENERAL FUND — 1894-1907

## REQUISITIONS AND APPROPRIATIONS

Total amount of requisitions made upon the Board of Estimate and Apportionment, viz.:		Total amount of appropriations made by the Board of Estimate and Apportionment, viz.:	
For the requirements of the Board of Rapid Transit Railroad Commissioners during the period of:		For the requirements of the Board of Rapid Transit Railroad Commissioners during the period of:	
1894. Amount of requisitions.....	\$89,434 75	1894. Amount of appropriations.....	\$5,000 00
1895. Amount of requisitions.....		1895. Amount of appropriations.....	\$5,795 88
Aggregate appropriation made by the Board of Estimate and Apportionment in excess of the amount of the original requisitions.....	1,816 31		
1896. Amount of requisitions.....	91,251 06	1896. Amount of appropriations.....	103,135 60
1897. Amount of requisitions.....	66,947 83	1897. Amount of appropriations.....	66,009 89
Aggregate appropriation made by the Board of Estimate and Apportionment reduced to suffice the purposes of the original requisitions..	14,433 04	1898. Amount of appropriations.....	53,380 91
1898. Amount of requisitions.....	842,943 37		
Aggregate appropriation made by the Board of Estimate and Apportionment reduced to suffice the purposes of the original requisitions..	5,869 55	1899. Amount of appropriations.....	27,623 33
1899. Amount of requisitions.....	37,073 83	1900. Amount of appropriations.....	246,393 28
1900. Amount of requisitions.....	246,393 28	1901. Amount of appropriations.....	423,521 60
1901. Amount of requisitions.....	423,531 60	1902. Amount of appropriations.....	613,500 00
1902. Amount of requisitions.....	613,500 00		
1903. Amount of requisitions.....	\$572,000 00	1903. Amount of appropriations.....	542,000 00
Reappropriation, No bonds to be issued.....	30,000 00	1904. Amount of appropriations.....	576,000 00
1904. Amount of requisitions.....	542,000 00	1905. Amount of appropriations.....	640,605 00
1905. Amount of requisitions.....	576,000 00	1906. Amount of appropriations.....	731,160 00
1906. Amount of requisitions.....	640,605 00	*1907. Amount of appropriations.....	853,167 00
*1907. Amount of requisitions.....	731,160 00		
Total amount of the requisitions made by the Board of Rapid Transit Railroad Commissioners from 1894 to 1907.....	\$4,934,294 19	Total amount of the appropriations made by the Board of Estimate and Apportionment from 1894 to 1907.....	\$4,934,294 19

\* For the six months ended June 30, 1907.

## LXXXIII. RECAPITULATION — Continued

## 2. GENERAL FUND — 1907-1916

## REQUISITIONS AND APPROPRIATIONS

Total amount of the requisitions made upon the Board of Estimate and Apportionment, viz.: For the requirements of the Public Service Commission for the First District during the period of:		Total amount of appropriations made by the Board of Estimate and Apportionment, viz.: For the requirements of the Public Service Commission for the First District during the period of:	
*1907. Amount of requisitions.....	\$37,000 00	*1907. Amount of appropriations.....	\$37,000 00
1908. Amount of requisitions.....	\$1,096,000 00		
Aggregate appropriation made by the Board of Estimate and Apportionment reduced to suffice the purposes of the original requisitions.....	96,000 00		
1909. Amount of requisitions.....	1,000,000 00	1908. Amount of appropriations.....	1,000,000 00
1910. Amount of requisitions.....	1,137,500 00	1909. Amount of appropriations.....	1,137,500 00
1911. Amount of requisitions.....	1,183,274 00	1910. Amount of appropriations.....	1,183,274 00
1912. Amount of requisitions.....	1,189,801 20	1911. Amount of appropriations.....	1,239,801 20
1913. Amount of requisitions.....	1,554,500 00	1912. Amount of appropriations.....	1,554,500 00
1914. Amount of requisitions.....	1,765,000 00	1913. Amount of appropriations.....	1,765,000 00
1915. Amount of requisitions.....	2,880,000 00	1914. Amount of appropriations.....	2,880,000 00
1916. Amount of requisitions.....	3,575,000 00	1915. Amount of appropriations.....	3,575,000 00
		1916. Amount of appropriations.....	3,744,200 00
Total amount of the requisitions made by the Public Service Commission for the First District for the period of 1907-1916.....	\$17,936,375 20	Total amount of the appropriations made by the Board of Estimate and Apportionment for the period 1907-1916.....	\$17,936,375 20

\* For the six months ended December 31, 1907.

## LXXXIII. RECAPITULATION — Continued

## 3. GENERAL FUND — 1894-1907

## DISBURSEMENTS

YEAR	Administrative and general office	Engineering	Legal	Total
Total amount of disbursements made under the direction of the Board of Rapid Transit Railroad Commissioners during the period of:				
1894. Amount of disbursements. ....	\$2,929 10	\$1,271 34	\$28 30	\$4,228 74
1895. Amount of disbursements. ....	6,048 49	26,250 20	25,685 13	57,986 01
1896. Amount of disbursements. ....	35,572 34	17,028 82	31,457 53	84,058 69
1897. Amount of disbursements. ....	5,230 06	21,395 86	38,925 73	65,551 65
1898. Amount of disbursements. ....	4,521 15	17,930 31	29,519 13	51,970 59
1899. Amount of disbursements. ....	2,826 94	3,698 00	20,551 30	27,076 24
1900. Amount of disbursements. ....	53,866 33	161,047 23	27,356 19	242,269 75
1901. Amount of disbursements. ....	39,023 86	348,253 30	31,861 62	419,143 78
1902. Amount of disbursements. ....	45,576 10	458,399 79	83,547 26	587,513 15
1903. Amount of disbursements. ....	45,719 42	520,664 27	24,332 55	590,716 24
1904. Amount of disbursements. ....	57,965 11	530,936 37	27,446 87	616,348 35
1906. Amount of disbursements. ....	48,945 59	513,535 00	48,977 91	611,458 50
1906. Amount of disbursements. ....	45,384 68	586,503 74	119,807 99	751,696 41
*1907. Amount of disbursements. ....	68,798 39	300,244 99	91,691 17	460,734 55
	\$462,407 56	\$3,507,154 31	\$551,191 68	\$4,520,753 55
Total amount of the General Fund disbursements of the Board of Rapid Transit Railroad Commissioners from 1894 to 1907.....				

\* For the six months ended June 30, 1907.

## LXXXIII. RECAPITU

## 4. GENERAL

## DISBURSE

YEAR	The Commis- sion	Executive Depart- ment	General Account	Secretary's Office	Legal Depart- ment	Bureau of Franchises	Bureau of Statistics and Accounts
Total amount of dis- bursements made under the direc- tion of the Public Service Commis- sion for the First District during the period of:							
†1907. Amount of disbursements...	\$44,892 45	\$70,751 47	.....	.....	\$25,327 07	.....	\$1,032 04
1908. Amount of disbursements...	91,000 00	194,148 45	.....	.....	67,323 63	\$9,906 05	20,299 35
1909. Amount of disbursements...	91,000 00	144,783 38	.....	.....	86,163 83	15,734 22	31,108 94
1910. Amount of disbursements...	91,000 00	.....	\$81,966 80	\$97,664 05	49,905 62	20,621 70	25,550 07
1911. Amount of disbursements...	91,000 00	.....	100,774 91	96,392 66	51,618 70	18,847 09	21,082 22
1912. Amount of disbursements...	92,760 28	.....	112,535 91	77,338 71	49,728 60	21,176 79	22,501 63
1913. Amount of disbursements...	98,372 79	.....	115,279 19	97,117 82	58,134 40	16,209 74	29,783 00
1914. Amount of disbursements...	92,251 00	.....	142,560 75	155,541 17	72,248 76	.....	57,394 95
1915. Amount of disbursements...	90,475 81	.....	89,942 37	160,011 72	72,740 03	.....	66,637 63
1916. Amount of disbursements...	88,951 62	.....	105,041 70	187,615 28	68,888 60	.....	66,362 26
**	\$866,708 95						
		\$409,683 30					
			\$748,101 63				
				\$890,711 51			
					\$597,060 14		
						\$102,795 09	
							\$377,712 18

Total amount of the General Fund disbursements of the Public Service Commission for the First District.

\* Chargeable to the State Fund.

† Classified disbursements for the six months ended December 31, 1907.

‡ Disbursements applied to the Engineering Department. \*\* Includes \$5,384.07 disbursements for the super-

a Bureau of Equipment Inspection.

b Bureau of Transit Inspection.

## LATION — Continued

## FUND — 1907-1916

## MENTS — Concluded

Bureau of Gas and Electricity	Chief Engineer's Office	Bureau of Subway Construction	Engineering Department	Transportation Department	Appraisal Department	For account of the Rapid Transit Commission	Total
\$9,824 24	\$10,089 42	\$255,505 49	.....	\$13,576 32	.....	\$14,363 12	\$400,489 17
29,732 87	21,174 70	483,279 44	.....	103,752 50	\$40,792 57	2,435 20	982,844 76
42,807 87	24,056 95	547,206 29	.....	99,355 73	102,104 04	.....	1,093,111 35
39,893 23	29,910 61	738,542 10	.....	123,616 39	.....	.....	1,208,010 57
43,651 21	\$.....	\$.....	\$632,634 23	127,010 31	.....	.....	1,101,981 43
46,596 04	\$.....	\$.....	899,789 82	114,947 67	.....	.....	1,354,705 16
46,741 80	.....	.....	1,361,086 28	115,227 15	.....	.....	1,849,589 38
47,215 87	.....	.....	2,278,622 89	a114,846 11 868,482 56	.....	.....	2,936,613 06
48,358 28	.....	.....	2,947,736 72	a143,491 83 878,443 14	.....	.....	3,619,362 52
53,740 56	.....	.....	2,915,279 44	a178,441 45 878,502 60	.....	.....	3,651,872 09
\$406,362 17	\$85,231 68	\$2,034,533 32	\$11,035,149 38	\$1,359,503 56	\$142,896 61	\$16,793 32	\$18,198,559 49
for the period 1907-1916.....							\$18,198,559 49

{Disbursements aggregated and applied to the accounts of "General Account" and "Secretary's Office."  
/ision of the elimination of grade crossings, and charged to State Funds available for this purpose.

## LXXXIII. RECAPITULATION — Continued

## 5. ENGINEERING AND OTHER EXPENSES, PUBLIC SERVICE COMMISSION

## REIMBURSEMENT OF THE GENERAL FUND BY PROCEEDS FROM THE SALE OF CORPORATE STOCK ISSUED FOR RAPID TRANSIT CONSTRUCTION

PURPOSE	AUTHORIZATION BY BOARD OF ESTIMATE AND APPORTIONMENT		CORPORATE STOCK ISSUE		Total
	Date	Amount	Date	Amount	
To replenish the General Fund, for engineering and other expenses chargeable to construction pursuant to the provisions of <i>Contract No. 3</i> , for the period March 19, 1913, to December 31, 1913.	Oct. 31, 1914	\$891,000 00	Nov. 10, 1915	\$891,000 00	
To replenish the General Fund, for engineering and other expenses chargeable to construction pursuant to the provisions of <i>Contract No. 4</i> , for the period March 19, 1913, to December 31, 1913.	Oct. 31, 1914	522,000 00	Nov. 10, 1915	522,000 00	
To replenish the General Fund, for engineering and other expenses chargeable to construction pursuant to the provisions of <i>Contract No. 3</i> , for the period January 1, 1914, to December 31, 1914.	Oct. 31, 1914	1,332,000 00	Sept. 29, 1915	1,332,000 00	
To replenish the General Fund, for engineering and other expenses chargeable to construction pursuant to the provisions of <i>Contract No. 4</i> , for the period January 1, 1914, to December 31, 1914.	Oct. 31, 1914	998,000 00	Sept. 29, 1915	998,000 00	\$3,543,000 00
To replenish the General Fund for the Reduction of Taxation, 1914, for interest on bonds chargeable to construction pursuant to the provisions of <i>Contract No. 3</i> for the period July, 1907, to March, 1914.	Nov. 5, 1915	483,289 00	Nov. 10, 1915	\$483,289 00	
To replenish the General Fund for the Reduction of Taxation, 1914, for interest on bonds chargeable to construction pursuant to the provisions of <i>Contract No. 4</i> , for the period July, 1907, to March, 1914.	Nov. 5, 1915	3,596,797 00	Nov. 10, 1915	3,596,797 90	4,080,086 00
					\$7,623,086 00

LXXXIII. RECAPITULATION — Continued  
6. MANHATTAN-THE BRONX CONSTRUCTION FUND, 1900-1914

REQUISITIONS AND APPROPRIATIONS

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Board of Rapid Transit Commissioners during the period:		Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Board of Rapid Transit Railroad Commissioners during the period:	
Construction.....		1900. Amount of the appropriations.....	
Rescindment — June 12, 1913.....		Rescindment — June 12, 1913.....	
1900. Amount of the requisitions.....		Amount determined in excess of the re-	
Amount reduced to suf-		quirements of the original appropria-	
face the purpose of the		tion rescinded.....	
original requisitions.....		1,625,172 11	
Terminals.....		\$34,874,827 89	
Real estate.....		1901. Amount of the appropriations.....	
1901. Amount of the requisitions.....		1902. Amount of the appropriations.....	
1902. Amount of the requisitions.....		1903. Amount of the appropriations.....	
Amount of the requisitions, extra work.....		3,000,000 00	
Real estate.....		\$1,600,000 00	
Real estate.....		June 12, 1913 —	
Amount reduced to suf-		Amount re-	
face the purpose of		duced to	
purpose of		suffice the	
original requisitions 11,907 42		purpose of	
Extra work		original	
and for		requisitions 11,907 42	
1904. Amount of the requisitions.....		738,092 58	
1905. Amount of the requisitions.....		1,600,000 00	
1906. Amount of the requisitions.....		3,738,092 58	
Interest on corporate stock.....		2,965,392 65	
Extra work, Van Cortlandt Park es-		675,000 00	
tension.....			

## LXXXIII. RECAPITULATION — Continued

## 6. MANHATTAN-THE BRONX CONSTRUCTION FUND, 1900-1914 — Continued

## REQUISITIONS AND APPROPRIATIONS — Continued

1907. Amount of the requisitions.	Extra work at R. T. station at 149th street and Third avenue, Borough of The Bronx.....	\$15,000 00	1907. Amount of the appropriations. Receivment — June 10, 1910. Amount determined in excess of the requirements of the original appropriation rescinded.....	\$744,773 63
	June 10, 1910 — Amount reduced to suffice the purpose of the original requisition....	1,602 80		
		\$13,397 20		1,602 80
1907. Amount of the requisitions.	Interest on corporate stock.....	\$729,773 63	1907. Amount of the appropriations. Receivment — June 12, 1913. Amount determined in excess of the requirements of the original appropriations rescinded.....	\$743,170 83
	June 12, 1913 — Amount reduced to suffice the purpose of the original requisition....	88,855 13		88,855 13
		\$640,918 50		\$654,315 70
Total.....		\$45,907,628 82		\$45,907,628 82
Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period:				
1907. Amount of the requisitions.	Extra work — 96th street improvement.....	\$860,000 00	Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period:	
	June 12, 1913 — Amount reduced to suffice the purpose of the original requisition....	644,800 00		
		\$205,200 00		
	Extra work — Outlet chambers, etc.....	\$600,000 00		

	June 12, 1913 — Amount reduced to suf- fice the purpose of the original requisition....		1907. Amount of the appropriations. Readjustment — June 12, 1913. Amount determined in excess of the re- quirements of the original appropri- ations recinded.....	
	10,087 20	795,113 71		795,113 71
1908. Amount of the requisitions.				
		\$590,912 71		
		795,113 71		
1909. Amount of the requisitions.				
		\$500,000 00		
		6,000 00		
		204,835 18		710,835 18
1909. Amount of the appropriations.....				
1909. Amount of the requisitions.				
		\$160,000 00		
		1,150,000 00		
		350,000 00		
1909. Amount of the appropriations.....				
1909. Amount of the requisitions.				
		31,000 00		
		1,601,000 00		1,600,000 00
1909. Amount of the requisitions.				
		\$446,000 00		
		12,000 00		
		458,000 00		

## LXXXIII. RECAPITULATION — Continued

## 6. MANHATTAN-THE BRONX CONSTRUCTION FUND, 1900-1914 — Concluded

## REQUISITIONS AND APPROPRIATIONS — Concluded

Extra work — reconstruction of the electricity line of the Brooklyn Bridge station, etc....	\$15,000 00		\$1910. Amount of the appropriations.....	\$504,000 00
Reasindment — February 27, 1912. Amount of the original requisition determined unnecessary in the requirements of the Commission.			Reasindment — February 27, 1912. Amount determined unnecessary in the requirements of the Commission.....	15,000 00
Extra work — additional means for the construction of the new railway station at 107th street and St. Nicholas avenue, Borough of Manhattan....	\$31,000 00			\$439,000 00
June 12, 1913 — Amount reduced to suffice the purposes of the original requisition.....	3,000 00			
	\$28,000 00			
1911. Amount of the requisitions.				
Extra work — changes necessitated by the widening of 207th street at Broadway and 42d street west of Fifth avenue (\$10,720.00) expenditures to be certified for payment to the President of the Borough of Manhattan....				
Extra work — a settlement and adjustment of certain claims and omissions arising thereunder.....	1,684,109 33		1911. Amount of the appropriations.....	\$1,815,109 33
Real estate and interest therein.....	100,000 00		Reasindment — June 12, 1913. Amount reduced to suffice the purposes of the original requisition.....	3,000 00
				\$1,812,109 33

1911. Amount of the requisitions.

1912. Amount of the requisitions.	Extra work — reconstruction of the eastern end of the Brooklyn Bridge station, etc. ....	\$5,000 00			
	Extra work — additional elevators at 181st street and St. Nicholas avenue.....	40,000 00			
	**Extra work — to provide a new entrance through building at northeast corner Broadway and 42d st. ....	2,205 00			
	Extra work.....	50,000 00			
	Real estate and interest therein.....	25,000 00			
		100,000 00	222,205 00	1912. Amount of the appropriations.....	195,000 00
1913. Amount of the requisitions.	{ Extra work — installing additional elevators at 181st street and St. Nicholas avenue.....				
	.....				
	.....				
	.....				
	.....				
1914. Amount of the requisitions.	.....				
1915. Amount of the requisitions.	.....				
1916. Amount of the requisitions.	.....				
	.....				
Grand total.	.....				
		\$51,902,115 47		Grand total.....	\$51,899,910 47

\* For the six months ended June 30, 1907.

† For the six months ended December 31, 1907.

‡ Appropriation for the construction of the Zoological Park station, authorized in the year 1910.

\*\* Requisitions dated August 14, 1912 — \$2,205.00 remaining unappropriated December 31, 1912.

**LXXXIII. RECAPITULATION — Continued**  
**7. BROOKLYN-MANHATTAN CONSTRUCTION FUND, 1902-1914**  
**REQUISITIONS AND APPROPRIATIONS**

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Board of Rapid Transit Railroad Commissioners during the period:		Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Board of Rapid Transit Railroad Commissioners during the period:	
1902. Amount of the { Requisitions, { Terminals and real estate, requisitions. ....	\$2,000,000 00	1902. Amount of the appropriations.....	\$3,000,000 00
1903. Amount of the requisitions.....	1,000,000 00	1903. Amount of the appropriations.....	.....
1904. Amount of the requisitions.....	.....	1904. Amount of the appropriations.....	.....
1905. Amount of the requisitions (extra work, four track, etc.).....	\$1,620,000 00	1905. Amount of the appropriations.....	\$1,620,000 00
Amount reduced to suffice the purposes of the original requisitions.....	194,099 79	Rescindment — July 3, 1913.....	.....
1906. Amount of the requisitions.....	1,425,900 21	Amount determined in excess of the requirements of the original appropriation rescinded.....	194,099 79
*1907. Amount of the requisitions.....	.....	1906. Amount of the appropriations.....	1,425,900 21
*1907. Amount of the requisitions.....	.....	*1907. Amount of the appropriations.....	.....
Total.....	\$4,425,900 21	Total.....	\$4,425,900 21
Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period:		Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period:	
*1907. Amount of the requisitions.....	.....	*1907. Amount of the appropriations.....	.....
1908. Amount of the requisitions (extra work, Bowling Green Spur).....	\$100,000 00	1908. Amount of the appropriations.....	\$100,000 00
June 10, 1910. Amount reduced to suffice the purpose of the original requisition.....	1,100 00	Rescindment — June 10, 1910.....	.....
1909. Amount of the requisitions — extra work lengthening stations.....	98,900 00	Amount determined in excess of the requirements of the original appropriation rescinded.....	1,100 00
1910. Amount of the requisitions — extra work construction of additional station facilities including additional entrances and exits to certain stations.....	\$44,000 00	1909. Amount of the appropriations.....	98,900 00
July 3, 1913.....	.....	1910. Amount of the appropriations.....	\$40,000 00
Amount reduced to suffice the purposes of the original requisition.....	12,754 61	.....	.....
.....	\$31,245 39	.....	.....

1911.	Extra work — acquisition of a platform strip and the cost of work thereon, adjoining the platform of the Atlantic Avenue Subway station.....	2,000 00	33,245 39	Rescindment — July 3, 1913. Amount determined in excess of the requirements of the original appropriation rescinded.....	12,754 61	33,245 39
	Amount of the requisitions.....			Amount of the appropriations.....		
1912.	Extra work — additional stairways, Fulton street station.....	\$8,000 00				
	Extra work — ventilating chambers, Fulton street near Jay street and additional stairways, Borough Hall station.....	11,000 00				
	**Interest on corporate stock.....	348,044 20	367,044 20			
1913.	Amount of the requisitions — extra work, Extra work — stairway east end of Borough Hall station.....	\$173,861 14		1912. Amount of the appropriations.....		19,000 00
	Real estate and interest therein.....	11,000 00				
		100,000 00				
		\$284,861 14				
	July 31, 1913. Amount of the original requisition determined unnecessary in the requirements of the Commission.....		11,000 00	1913. Amount of the appropriations.....	\$284,861 15	
				Rescindment — July 31, 1913. Amount determined unnecessary in the requirements of the Commission.....	11,000 00	
1914.	Amount of the requisitions.....		273,861 14	1914. Amount of the appropriations.....		273,861 14
1915.	Amount of the requisitions.....		300,000 00	1915. Amount of the appropriations.....		300,000 00
1916.	Amount of the requisitions.....		10,300 00	1916. Amount of the appropriations.....		10,300 00
	Grand total.....	\$5,859,250 94		Grand total.....		\$5,511,206 74

\* For the six months ended June 30, 1907.  
† For the six months ended December 31, 1907.  
\*\* Requisition dated August 14, 1912, \$348,044.20, remaining unappropriated December 31, 1916.

## LXXXIII. RECAPITULATION — Continued

## 8. BROOKLYN-MANHATTAN LOOP LINES (MANHATTAN SECTIONS) CONSTRUCTION FUNDS, 1907-1914

## REQUISITIONS AND APPROPRIATIONS

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the purposes of the Board of Rapid Transit Railroad Commissioners during the period of:		Total amount of appropriations made by the Board of Estimate and Apportionment for the purposes of the Board of Rapid Transit Railroad Commissioners during the period of:	
1907.	Amount of requisition — Section 9-O-1 — Construction — (Centre street from Pearl street to Park row.)	1907.	Amount of appropriation.
March 27, 1913.		Rescindment — March 27, 1913.	\$1,003,828 00
Amount reduced to suffice the purpose of the original requisition.	\$1,003,828 00	Amount determined in excess of the requirements of the original appropriation rescinded.	139,250 00
			\$864,578 00
*1907.	Amount of requisition — Section 9-O-2 — Construction — (Centre street from Pearl street to Canal street.)	1907.	Amount of appropriation.
March 27, 1913.		Rescindment — March 27, 1913.	\$3,035,000 00
Amount reduced to suffice the purpose of the original requisition.	\$3,035,000 00	Amount determined in excess of the requirements of the original appropriation rescinded.	89,267 00
			2,945,733 00
*1907.	Amount of requisition — Section 9-O-3 — Construction — (Centre street from Pearl street to Broome street.)	1907.	Amount of appropriation.
March 27, 1913.		Rescindment — March 27, 1913.	\$2,210,000 00
Amount reduced to suffice the purpose of the original requisition.	\$2,210,000 00	Amount determined in excess of the requirements of the original appropriation rescinded.	53,000 00
			2,157,000 00
*1907.	Amount of requisition — Section 9-O-4 — Construction — (New extension of Delancey street from Centre street to the Bowery.)	1907.	Amount of appropriation.
March 27, 1913.		Rescindment — March 27, 1913.	\$1,547,342 00
Amount reduced to suffice the purpose of the original requisition.	\$1,547,342 00	Amount determined in excess of the requirements of the original appropriation rescinded.	24,000 00
			1,523,342 00
*1907.	Amount of requisition — Section 9-O-5 — Construction — (Delancey street between the Bowery and Norfolk street.)	1907.	Amount of appropriation.
March 27, 1913.		Rescindment — March 27, 1913.	\$1,547,342 00
Amount reduced to suffice the purpose of the original requisition.	\$1,547,342 00	Amount determined in excess of the requirements of the original appropriation rescinded.	24,000 00
			1,523,342 00

Amount reduced to suffice the purpose of the original requisition.....	12,000 00	1,286,436 00	1907. Amount of appropriations. Recindment — March 27, 1913. Amount — determined in excess of the requirements of the original appropriation recindded.....	\$1,286,436 00	
Total.....		\$8,777,089 00	Amount determined in excess of the requirements of the original appropriation recindded.....	12,000 00	1,286,436 00
Amount reduced to suffice the purpose of the adjusted appropriations, viz.: Sec. 8-O-2—Construction.....	\$4,242 89 16,106 37		Total.....	\$8,777,089 00	
Sec. 9-O-5—Construction.....	19,848 26	\$8,787,740 74	Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period: 1907. Amount of appropriation.....	40,000 00	
Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period: 1907. Amount of the requisition — Real estate.....	\$1,000,000 00		1908. Amount of appropriation. Recindment — March 27, 1913. Amount determined in excess of the requirements of the original appropriation.....	\$511,145 00 1,600 00	509,545 00
1908. Amount of the supplemental requisitions — Real estate — on account of the above, viz.: Sec. 8-O-2..... \$128,000 00 Sec. 9-O-1..... 40,146 00 Sec. 9-O-2..... \$166,145 00 Sec. 8-O-3..... 174,470 00 Sec. 8-O-2..... 187,790 00 Sec. 9-O-4..... \$10,000 00 March 27, 1913. Amount reduced to suffice the purpose of the original requisition.....	1,600 00	\$998,400 00			
A supplemental requisition on account of the above, viz.: Sections 9-O-1, 9-O-2, 9-O-3, 9-O-4, 9-O-5, (entire route) real estate.....	\$20,000 00				
Section 9-O-1, extra work — enlargement of the Chambers street station, Borough of Manhattan.....	\$550,000 00				
Section 9-O-1, extra work — increasing the strength of the subway structure....	325,000 00	\$876,000 00	1909. Amount of appropriations.....		895,000 00

## LXXXIII. RECAPITULATION — Continued

8. BROOKLYN-MANHATTAN LOOP LINES (MANHATTAN SECTIONS) CONSTRUCTION FUNDS, 1907-1914 — Concluded  
REQUISITIONS AND APPROPRIATIONS — Concluded

1909. Amount of the requisitions.	A readjustment of the appropriations made for construction of the various sections for necessary changes during the progress of the work, viz.: Original appropriations	Readjustment
	Sec 9-O-1. \$1,878,828 00	\$2,047,668 00
	Sec 9-O-2. 3,035,000 00	3,014,418 00
	Sec 9-O-3. 2,210,000 00	2,053,141 00
	Sec 9-O-4. 1,547,342 00	1,693,943 00
	Sec 9-O-5. 1,295,436 00	1,160,436 00
	<b>\$9,969,606 00</b>	<b>\$9,969,606 00</b>
	Effecting no change in the aggregate amount of the original authorizations.	
	Supplemental requisitions made on account of the original dated October 16, 1907, for \$1,000,000, viz.:	
	Real estate and interest therein.....	25,000 00
	Real estate and interest therein (final).....	403,855 00
	<b>Total.....</b>	<b>\$428,855 00</b>
	Maintenance of the completed portion of the subway.....	\$3,000 00
	Real estate and interest therein.....	1,850,000 00
	<b>\$1,853,000 00</b>	
	A readjustment of the appropriations made for construction of certain sections for necessary	
1910. Amount of the requisitions.	1910. Amount of appropriations readjusted, viz.:	Readjusted authorization
	Section 9-O-1.....	\$2,047,668 00
	Section 9-O-2.....	3,014,418 00
	Section 9-O-3.....	2,053,141 00
	Section 9-O-4.....	1,693,943 00
	Section 9-O-5.....	1,160,436 00
	<b>\$9,969,606 00</b>	<b>\$9,969,606 00</b>
	Effecting no change in the aggregate amount of the original appropriations.	
	Amount of appropriations.....	<b>\$431,855 00</b>

1911. Amount of the requisitions.	changes during the progress of the work, viz.:		Readjusted
	Adjusted appropriations	Readjusted amount	
Sec. 9-O-1.	\$2,047,668 00	\$2,010,319 74	
Sec. 9-O-4.	1,663,943 00	1,716,185 89	
Sec. 9-O-5.	1,160,436 00	1,175,541 37	
	\$4,902,047 00	\$4,902,047 00	
Effecting no change in the aggregate amount of the original authorization.			
1911. Amount of appropriations readjusted, viz.:			
	Section 9-O-1	\$2,010,319 74	
	Section 9-O-4	1,716,185 89	
	Section 9-O-5	1,175,541 37	
		\$4,902,047 00	
Effecting no change in the aggregate amount of the original authorizations.			
	Amount of appropriations		\$1,200,000 00
	Reconciliation—March 27, 1913.		
	Amount determined in excess of the requirements of the appropriations as adjusted	\$4,242 89	
	Section 9-O-4	15,105 37	
	Section 9-O-5	19,348 26	19,348 26
		\$4,882,698 74	\$1,180,651 74
1912. Amount of the requisitions.	Real estate and interest therein—March 27, 1913.	350,000 00	
	Amount reduced to suffice the purposes of the original requisition.	18,000 00	
		\$332,000 00	
	Maintenance of the completed portion of the subway.	5,000 00	
		337,000 00	
1913. Amount of the requisitions.			
1914. Amount of the requisitions.			
† Grand total		\$12,821,140 74	\$12,821,140 74
1912. Amount of appropriations.	Amount of appropriations	1,005,000 00	
	Reconciliation—March 27, 1913.		
	Amount determined in excess of the requirements of the original requisition.	18,000 00	987,000 00
1913. Amount of appropriations.			
1914. Amount of appropriations.			
Grand total			\$12,821,140 74

\* For the six months ended June 30, 1907.

\*\* For the six months ended December 31, 1907.

† Requisitions since December 31, 1913, have been chargeable against the General Appropriations under Contract No. 4.

## LXXXIII. RECAPITULATION — Continued

## 9. BROOKLYN (FOURTH AVENUE) SUBWAY CONSTRUCTION FUNDS, 1908-1914

## REQUISITIONS AND APPROPRIATIONS

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of: 1908. Amount of the contract, Section M-B-Ex. 1 (under Flatbush avenue extension, from Nassau street to Willoughby street, Borough of Brooklyn, N. Y.)  
 Railroad construction..... \$1,020,476 55  
 Pipe gallery construction..... 101,374 55

Total contract..... \$1,121,851 10

Requisition, viz.: Amount necessary for the progress of the work:

For railroad construction..... \$200,000 00  
 For pipe gallery construction..... 20,000 00

\$220,000 00

Amount of the contract, Section 9-C-1 (under Flatbush avenue extension and Fulton street, from Willoughby street to Ashland place, Borough of Brooklyn, N. Y.)  
 Railroad construction..... \$3,436,019 00  
 Pipe gallery construction..... 58,695 00

Total contract..... \$3,494,714 00

Requisition, viz.: Amount necessary for the progress of the work:

For railroad construction..... \$500,000 00  
 For pipe gallery construction..... 10,000 00

\$510,000 00

(Amount of the contract, Section 11-E-1 and 11-A-1 under Ashland place and Fourth avenue, from Fulton street to Seckett street, Borough of Brooklyn, N. Y.)  
 Railroad construction..... \$3,392,091 50  
 Pipe gallery construction..... 208,135 00

\$3,600,226 50

Requisition, viz.: Amount necessary for the progress of the work:

For railroad construction..... \$500,000 00  
 For pipe gallery construction..... 30,000 00

\$530,000 00

Total amount of appropriations made by the Board of Estimate and Apportionment for the purposes of the Public Service Commission for the First District during the period of:

Amount of the contract, Section 11-A-2 (under Fourth  
avenue, from Bleecker street to Tenth street, Borough  
of Brooklyn, N. Y.)..... \$2,283,553 80  
Railroad construction..... 206,672 00  
Pipe gallery construction.....

\$2,490,225 80

Requisition, viz.: Amount necessary for the progress of  
the work:

For railroad construction..... \$500,000 00  
For pipe gallery construction..... 30,000 00

530,000 00

Amount of the contract, Section 11-A-3 (under Fourth  
avenue, from Tenth street to Twenty-seventh street,  
Borough of Brooklyn, N. Y.)..... \$1,945,640 50  
Railroad construction..... 251,076 00  
Pipe gallery construction.....

\$2,196,716 50

Requisition, viz.: Amount necessary for the progress of  
the work:

For railroad construction..... \$500,000 00  
For pipe gallery construction..... 30,000 00

530,000 00

Amount of the contract, Section 11-A-4 (under Fourth  
avenue, from Twenty-seventh street to Forty-third  
street, Borough of Brooklyn, N. Y.)..... \$2,808,932 80  
Railroad construction..... 173,665 00  
Pipe gallery construction.....

Total contract..... \$2,982,647 80

Requisition, viz.: Amount necessary for the progress of  
the work:

For railroad construction..... \$500,000 00  
For pipe gallery construction..... 30,000 00

530,000 00

1908 Total..... \$2,850,000 00

1908. Amount of appropriations.....

1909. Amount of the requisitions, viz.: Balance for the com-  
pletion of the contract work:

Section { For railroad construction..... \$320,476 55  
M-B-Ex. 1 { For pipe gallery construction..... \$61,374 55

901,851 10

## LXXXIII. RECAPITULATION — Continued

## 9. BROOKLYN (FOURTH AVENUE) SUBWAY CONSTRUCTION FUNDS, 1908-1914 — Concluded

## REQUISITIONS AND APPROPRIATIONS — Continued

Section 9-C-1 { For railroad construction.... \$2,936,019 00 { For pipe gallery construction.... 48,666 00	\$2,984,714 00				
Section 11-E-1 and 11-A-1 { For railroad construction.... \$2,892,091 50 { For pipe gallery construction.... 178,135 00	3,070,226 50				
Section 11-A-2 { For railroad construction.... \$1,783,553 30 { For pipe gallery construction.... 176,672 00					
March 27, 1913. Amount reduced to suffice the purposes of the original requisition.....	\$1,960,225 30				
Section 11-A-3 { For railroad construction.... \$1,445,640 50 { For pipe gallery construction.... 221,076 00	1,666,716 50				
March 27, 1913. Amount reduced to suffice the purposes of the original requisition.....	170,000 00				
Section 11-A-4 { For railroad construction.... \$2,308,982 80 { For pipe gallery construction.... 143,665 00	2,452,647 80				
March 27, 1913. Amount reduced to suffice the purposes of the original requisition.....	115,000 00				
1909 Total.....	\$12,671,381 20				
1910. Amount of the requisitions. { Real estate and interest thereon (all sections)..... \$200,000 00 { Extra work and materials (all sections)..... 200,000 00 { Extra work and materials — Myrtle avenue modification, Section M-B-Ex. 1..... 30,458 00	430,458 00				
1910. Amount of appropriations.....	278,068 00				
1909. Amount of appropriations, viz.: Total amount necessary for the progress of the work..... \$2,850,000 00 Total amount for the completion of the work..... 13,036,381 20					
Reindment — March 27, 1913. Amount determined in excess of the requirements of the original appropriations rescinded, viz.: Section 11-A-2..... \$90,000 00 Section 11-A-3..... 170,000 00 Section 11-A-4..... 115,000 00	365,000 00				
Total.....	\$15,521,381 20				

1911. Amount of the requisitions.....	1911. Amount of appropriations.....	
1912. Amount of the requisitions:		
Section 11-B-1, for railroad construction \$1,930,248 50		
Section 11-B-2, for railroad construction. 1,904,171 25		
For maintenance of the completed por-		
tion of the subway.....	5,000 00	3,839,429 75
1913. Amount of the requisitions.....		
1914. Amount of the requisitions.....		
†Grand total.....	\$19,791,268 95	
		1912. Amount of appropriations..... 3,993,929 75
		1913. Amount of appropriations.....
		1914. Amount of appropriations.....
		Grand total.....\$19,791,268 95

† Requisitions since December 31, 1913, have been chargeable against the General Appropriations under Contract No. 4.

**LXXXIII. RECAPITULATION — Continued**  
**10. LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS, 1911-1914**  
**REQUISITIONS AND APPROPRIATIONS**

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:		Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:	
1911.	Amount of requisition — Section No. 6. (Under Lexington avenue from East Twenty-sixth street to East Fortieth street.) For railroad construction — Section No. 7. *Amount of requisition — Section No. 7. (Under Lexington avenue from East Fortieth street to East Fifty-third street.) For railroad construction. *March 27, 1913. Amount of appropriation rescinded.	\$3,634,213 50	1911. Amount of the appropriation..... \$3,634,213 50
1911.	Amount of requisition — Section No. 8. (Under Lexington avenue from East Fifty-third street to East Sixty-seventh street.) For railroad construction — Section No. 10. (Under Lexington avenue from East Seventy-ninth street to East Ninety-third street.) For railroad construction — Section No. 11. (Under Lexington avenue from East Ninety-third street to East One Hundred and Sixth street.) For railroad construction — Section No. 5. (Under Irving place, Gramercy park and Lexington avenue from East Fourteenth street to East Twenty-sixth street.) For railroad construction — Section No. 12. (Under Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.) For railroad construction — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	\$2,750,463 40	1911. Amount of the appropriation..... \$2,750,463 40 *March 27, 1913. Rescindment..... 2,750,463 40
1911.	Amount of requisition — Section No. 8. (Under Lexington avenue from East Fifty-third street to East Sixty-seventh street.) For railroad construction — Section No. 10. (Under Lexington avenue from East Seventy-ninth street to East Ninety-third street.) For railroad construction — Section No. 11. (Under Lexington avenue from East Ninety-third street to East One Hundred and Sixth street.) For railroad construction — Section No. 5. (Under Irving place, Gramercy park and Lexington avenue from East Fourteenth street to East Twenty-sixth street.) For railroad construction — Section No. 12. (Under Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.) For railroad construction — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	3,369,484 20	1911. Amount of the appropriation..... 3,369,484 20
1911.	Amount of requisition — Section No. 10. (Under Lexington avenue from East Seventy-ninth street to East Ninety-third street.) For railroad construction — Section No. 11. (Under Lexington avenue from East Ninety-third street to East One Hundred and Sixth street.) For railroad construction — Section No. 5. (Under Irving place, Gramercy park and Lexington avenue from East Fourteenth street to East Twenty-sixth street.) For railroad construction — Section No. 12. (Under Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.) For railroad construction — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	3,253,072 80	1911. Amount of the appropriation..... 3,253,072 80
**1911.	Amount of requisition — Section No. 5. (Under Irving place, Gramercy park and Lexington avenue from East Fourteenth street to East Twenty-sixth street.) For railroad construction — Section No. 12. (Under Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.) For railroad construction — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	3,132,195 05	1911. Amount of the appropriation..... 3,132,195 05
1911.	Amount of requisition — Section No. 12. (Under Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.) For railroad construction — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	2,419,127 20	1911. Amount of the appropriation.....
1911.	Amount of requisition — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	2,825,740 74	1911. Amount of the appropriation..... 2,825,740 74
1911.	Amount of requisition — Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-eighth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.	3,820,129 75	1911. Amount of the appropriation..... 3,820,129 75

1911.	Amount of requisition — Section No. 12 (Under Lexington avenue from East One Hundred and Eighteenth street to East One Hundred and Twenty- ninth street.)	4,071,416 50	1911.	Amount of the appropriation	4,071,416 50
1911.	For railroad construction — Section No. 9 (Under Lexington avenue from East Sixty-seventh street to East Seventy-ninth street.)	1,961,997 00	1911.	Amount of the appropriation	.....
	<b>Total requisitions — 1911.</b>	<u>\$28,487,376 74</u>		<b>Total appropriations — 1911.</b>	<u>\$24,106,252 54</u>
1912.	Amount of requisition — Section No. 3. (Under Broadway from Howard street to Bleeker street.)	.....	1912.	Amount of the appropriation	\$1,961,997 00
1912.	For railroad construction — Section No. 2. (Under Broadway from Park place to Walker street.)	\$2,295,086 50	1912.	Amount of the appropriation	2,295,086 50
1912.	For railroad construction — Section No. 2a. (Under Broadway from Walker street to Howard street and a connection at Canal street.)	2,355,828 50	1912.	Amount of the appropriation	2,355,828 50
1912.	For railroad construction — Section No. 14. (From Lexington avenue and East One Hundred and Twenty-ninth street, Borough of Manhattan, under Lexington avenue and Harlem river to Mott avenue in the Borough of The Bronx.)	912,351 60	1912.	Amount of the appropriation	912,351 60
1912.	For railroad construction — Section No. 1. (From Trinity place near Morris street under Trinity place and Church street to Day street.)	3,889,775 05	1912.	Amount of the appropriation	3,889,775 05
1912.	Amount of requisition — Section No. 1a. (Under Church street, north of Day street, private property, Vesey street, private property, to Broadway, between Vesey and Barclay streets, thence under Broadway to Park place.)	1,222,269 20	1912.	Amount of the appropriation	1,222,269 20
1912.	For railroad constructions — Extra work: Amount of the requisitions of extra work in Sections 1, 1a, 2, 2a, 3, 6, 8, 9, 10, 11, 12, 13, 14, 15. ....	982,740 70	1912.	Amount of the appropriation	982,740 70
	<b>Rescindment — March 27, 1913.</b> Amount of the original requisition deter- mined unnecessary in the requirements of the Commission. ....	<u>\$1,000,000 00</u> <u>1,000,000 00</u>	***1912.	Amount of the appropriation. Rescindment — March 27, 1913. Amount of the original appropriation de- termined unnecessary in the require- ments of the Commission. ....	<u>\$600,000 00</u> <u>600,000 00</u>

**LXXXIII. RECAPITULATION — Continued**  
**10. LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS, 1911-1914**  
**REQUIREMENTS AND APPROPRIATIONS**

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:		Total amount of the appropriations made by the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:	
1911.	Amount of requisition — Section No. 6. (Under Lexington avenue from East Twenty-sixth street to East Fortieth street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		\$3,634,213 50
1911.	*Amount of requisition — Section No. 7. (Under Lexington avenue from East Fortieth street to East Fifty-third street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		\$2,750,463 40
	*March 27, 1913. Amount of appropriation rescinded.....		2,750,463 40
1911.	Amount of requisition — Section No. 8. (Under Lexington avenue from East Fifty-third street to East Sixty-seventh street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		3,369,484 20
1911.	Amount of requisition — Section No. 10. (Under Lexington avenue from East Seventy-ninth street to East Ninety-third street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		3,253,072 80
1911.	Amount of requisition — Section No. 11. (Under Lexington avenue from East Ninety-third street to East One Hundred and Sixth street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		3,132,195 05
**1911.	Amount of requisition — Section No. 5. (Under Irving place, Gramercy park and Lexington avenue from East Fourteenth street to East Twenty-sixth street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		2,419,127 20
1911.	Amount of requisition — Section No. 12. (Under Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		2,825,740 74
1911.	Amount of requisition — Section No. 13. (Under Mott street and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-fifth street to East One Hundred and Fifty-seventh street and to Alexander avenue.) For railroad construction.....	1911.	Amount of the appropriation.....
	.....		3,820,129 75

1911.	Amount of requisition — Section No. 13. (Under Lexington avenue from East One Hundred and Eighteenth street to East One Hundred and Twenty- ninth street.)	4,071,416 80	1911.	Amount of the appropriation.....	4,071,416 80
1911.	For railroad construction — Section No. 9. (Under Lexington avenue from East Sixty-seventh street to East Seventy-ninth street.)	1,991,997 00	1911.	Amount of the appropriation.....	.....
	<b>Total requisitions — 1911.....</b>	<b>\$28,487,376 74</b>		<b>Total appropriations — 1911.....</b>	<b>\$24,106,252 54</b>
1912.	Amount of requisition — Section No. 3. (Under Broadway from Howard street to Bleecker street.)	.....	1912.	Amount of the appropriation.....	<b>\$1,961,997 00</b>
1912.	For railroad construction — Section No. 2. (Under Broadway from Park place to Walker street.)	\$2,295,086 50	1912.	Amount of the appropriation.....	2,295,086 50
1912.	For railroad construction — Section No. 2a. (Under Broadway from Walker street to Howard street and a connection at Canal street.)	2,355,828 50	1912.	Amount of the appropriation.....	2,355,828 50
1912.	For railroad construction — Section No. 14. (From Lexington avenue and East One Hundred and Twenty-ninth street, Borough of Manhattan, under Lexington avenue and Harlem river to Mott avenue in the Borough of The Bronx.)	912,351 60	1912.	Amount of the appropriation.....	912,351 60
1912.	For railroad construction — Section No. 1. (From Trinity place near Morris street place and Church street to Dey street.)	3,889,775 05	1912.	Amount of the appropriation.....	3,889,775 05
1912.	For railroad construction — Section No. 1a. (Under Church street, north of Dey street, private property, Vesey street, private property, to Broadway, between Vesey and Barclay streets, Broadway to Park place.)	1,222,269 20	1912.	Amount of the appropriation.....	1,222,269 20
1912.	For railroad construction — Extra work: To meet the requirements of extra work: in Sections 1, 1a, 2, 2a, 3, 6, 8, 9, 10, 11, 12, 13, 14, 15.....	982,740 70	1912.	Amount of the appropriation.....	982,740 70
	<b>Requ Coastment — March 27, 1913.....</b>	<b>\$1,000,000 00</b>	***1912.	Amount of the appropriation.....	\$800,000 00
	Amount of the original requisition deter- mined unnecessary in the requirements of the Commission.....	1,000,000 00		Amount of the original appropriation de- termined unnecessary in the require- ments of the Commission.....	<b>600,000 00</b>

**LEXXIII. RECAPITULATION — Continued**  
**10. LEXINGTON AVENUE SUBWAY CONSTRUCTION FUNDS, 1911-1914 — Concluded**  
**REQUISITIONS AND APPROPRIATIONS — Concluded**

1912. Amount of the requisitions.		1912. Amount of the appropriation.	
Real estate and interest therein.....	\$350,000 00	1912. Amount of the appropriation.....	\$350,000 00
Real estate and interest therein.....	250,000 00		250,000 00
	\$600,000 00	Total appropriations — 1912.....	\$14,220,048 55
Total requisition (1912).....	\$12,268,061 55		
1913. Amount of the requisitions.....		1913. Amount of the appropriation.....	
Total requisition — 1913.....		1914. Amount of the appropriation.....	
1914. Amount of the requisitions.....			
Total requisition — 1914.....		Grand total.....	\$38,326,301 09
†Grand total.....	\$40,745,428 29		

\* The successful bidder failed to execute the contract for Section No. 7 after it had been awarded to him pursuant to the appropriation authorized by the Board of Estimate and Apportionment and the appropriation was rescinded on March 27, 1913.

\*\* Requisition on Section No. 5 for \$2,419,127.20 remaining unappropriated.

\*\*\* \$400,000.00 of the requisition of October 15, 1912, for \$1,000,000.00 (for extra work) remaining unappropriated.

† Requisitions since December 31, 1913, have been chargeable against the General Appropriation under Contract No. 3.

**LXXXIII. RECAPITULATION — Continued**  
**11. RAPID TRANSIT CONSTRUCTION FUND — THE BRONX (SOUTHERN BOULEVARD AND WESTCHESTER AVENUE LINE), 1913**

**REQUISITIONS AND APPROPRIATIONS**

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:		
1913. Amount of the requisitions.....	\$2,924,331 50	1913. Amount of the appropriations.....
†General total.....	\$2,924,331 50	Grand total.....
		\$2,924,331 50

† Requisitions since December 31, 1913, have been chargeable against the General Appropriations under Contract No. 3.

**LXXXIII. RECAPITULATION — Continued**  
**12. RAPID TRANSIT CONSTRUCTION FUND — QUEENS-ASTORIA, WOODSIDE AND CORONA RAPID TRANSIT RAILROAD, 1913**

**REQUISITIONS AND APPROPRIATIONS**

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:			
1913. Amount of the requisitions.....	\$2,924,331 50	1913. Amount of the appropriations.....	\$2,924,331 50
†Grand total.....	\$2,924,331 50	Grand total.....	\$2,924,331 50

† Requisitions since December 31, 1913, have been chargeable against the General Appropriations under Contract No. 3, and Contract No. 4.

LXXXIII. RECAPITULATION — Continued

13. RAPID TRANSIT CONSTRUCTION FUND — INTERBOROUGH RAPID TRANSIT COMPANY, CONTRACT NO. 3 — CITY CONTRIBUTION, 1913-1916\*

REQUISITIONS AND APPROPRIATIONS

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during:			
1913. Amount of the requisitions.....	\$28,200,000 00	1913. Amount of the appropriations.....	\$28,200,000 00
1914. Amount of the requisitions.....	.....	1914. Amount of the appropriations.....	.....
1915. Amount of the requisitions.....	.....	1915. Amount of the appropriations.....	.....
1916. Amount of the requisitions.....	5,582,717 07	1916. Amount of the appropriations.....	5,582,717 07
Grand total.....	\$33,782,717 07	Grand total ..	\$33,782,717 07
		1913— \$130,858 44 1914— 494,778 54 1915— 986,052 95 1916— 1,892,926 93 \$3,504,616 86	
Total amount of the contributions received from the Interborough Rapid Transit Company to December 31, 1916.....			

\*Total amount of the contributions received from the Interborough Rapid Transit Company to December 31, 1916.....

LXXXII. RECAPITULATION — *Concluded*14. RAPID TRANSIT CONSTRUCTION FUND — NEW YORK MUNICIPAL RAILWAY CORPORATION, CONTRACT NO. 4 —  
CITY CONTRIBUTION, 1913-1916\*

## REQUISITIONS AND APPROPRIATIONS

Total amount of the requisitions made upon the Board of Estimate and Apportionment for the requirements of the Public Service Commission for the First District during the period of:			
1913. Amount of the requisitions.....	\$60,000,000 00	1913. Amount of the appropriations.....	\$60,000,000 00
1914. Amount of the requisitions.....	.....	1914. Amount of the appropriations.....	.....
1915. Amount of the requisitions.....	.....	1915. Amount of the appropriations.....	.....
1916. Amount of the requisitions.....	9,549,817 15	1916. Amount of the appropriations.....	9,549,817 15
Grand total.....	\$69,549,817 15	Grand total.....	\$69,549,817 15
		1913—\$4,268,869 49 1914—1,079,137 77 1915—298,994 94 1916—85,143 69 \$5,732,144 89	

\* Total amount of the contributions received from the New York Municipal Railway Corporation to December 31, 1916.....

## LXXXIV. RECAPITULATION

## CORPORATE STOCK

## 1. MANHATTAN-THE BRONX CONSTRUCTION FUND

Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Manhattan-The Bronx Rapid Transit Railroad during the period of:

	Corporate stock	Premium	Proceeds
1900.....	\$1,000,000 00	\$105,400 00	\$1,105,400 00
1901.....	11,000,000 00	635,361 46	11,635,361 46
1902.....	12,500,000 00	803,663 70	13,303,663 70
1903.....	11,865,000 00	237,487 72	12,102,487 72
1904.....	5,885,000 00	82,938 37	5,967,938 30
1905.....	2,300,000 00	16,391 10	2,316,391 17
1906.....	.....	.....	.....
*1907.....	.....	.....	.....
<b>Total.....</b>	<b>\$44,550,000 00</b>	<b>\$1,881,242 35</b>	<b>\$46,431,242 35</b>
†1907.....	683,000 00	.....	683,000 00
1908.....	968,722 38	18,140 48	986,862 86
1909.....	250,500 00	1,993 84	252,493 84
1910.....	1,104,200 00	12,279 17	1,116,479 17
1911.....	989,892 65	9,742 55	999,635 20
1912.....	166,109 33	891 40	167,000 73
1913.....	80,954 90	419 47	81,374 37
1914.....	22,300 00	.....	22,300 00
1915.....	5,000 00	.....	5,000 00
1916.....	16,000 00	.....	16,000 00
<b>Grand totals.....</b>	<b>\$48,836,679 26</b>	<b>\$1,924,709 26</b>	<b>\$50,761,388 52</b>

\* For the six months ended June 30, 1907.

† For the six months ended December 31, 1907.

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 2. BROOKLYN-MANHATTAN CONSTRUCTION FUND

Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Brooklyn-Manhattan Rapid Transit Railroad during the period of:

	Corporate stock	Premium	Proceeds
1903.....	\$301,000 00	\$715 29	\$301,715 29
1904.....	1,065,000 00	15,359 13	1,080,359 13
1905.....	200,000 00	1,425 32	201,425 32
1906.....	750,000 00	4,435 00	754,435 00
*1907.....	36,000 00	.....	36,000 00
<b>Total.....</b>	<b>\$2,352,000 00</b>	<b>\$21,934 74</b>	<b>\$2,373,934 74</b>
†1907.....	313,500 00	.....	313,500 00
1908.....	850,000 00	22,026 68	872,026 68
1909.....	98,900 00	1,167 61	100,067 61
1910.....	222,600 00	2,830 76	225,430 76
1911.....	140,400 00	1,589 90	141,989 90
1912.....	732,000 00	5,105 95	737,105 95
1913.....	285,645 60	334 42	285,980 02
1914.....	91,000 14	.....	91,000 14
1915.....	287,000 00	.....	287,000 00
1916.....	26,000 00	.....	26,000 00
<b>Grand total.....</b>	<b>\$5,399,045 74</b>	<b>\$54,990 06</b>	<b>\$5,454,035 80</b>

\* For the six months ended June 30, 1907.

† For the six months ended December 31, 1907.

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS

3. *Seventh Avenue Branch*

	Corporate stock	Premium	Proceeds	Total
Total amount of the proceeds credited of the corporate stock issued by the City of New York for the construction of the Seventh Avenue Subway during the period:				

*Section No. 1*

Under Greenwich street from Battery place to Vesey street, Borough of Manhattan.

1915.....	\$45,000 00	.....	\$45,000 00	
1916.....	38,000 00	.....	38,000 00	
				\$83,000 00

*Section No. 1a*

South Ferry to Battery place and Greenwich street under Battery park, Borough of Manhattan.

1915.....	132,000 00	.....	132,000 00	
1916.....	66,000 00	.....	66,000 00	
				198,000 00

*Section No. 2*

Under West Broadway from Vesey street to Beach street, Borough of Manhattan.

1915.....	69,000 00	.....	69,000 00	
1916.....	44,000 00	.....	44,000 00	
				\$113,000 00

*Section No. 3*

Under Seventh avenue extension and Seventh avenue from Beach street to Commerce street, Borough of Manhattan.

1915.....	49,000 00	.....	49,000 00	
1916.....	53,000 00	.....	53,000 00	
				102,000 00

*Section No. 4*

Under Seventh avenue from Commerce street to 16th street, Borough of Manhattan.

1915.....	29,000 00	.....	29,000 00	
1916.....	36,000 00	.....	36,000 00	
				65,000 00

*Section No. 5*

Under Seventh avenue from 16th street to 30th street, Borough of Manhattan.

1915.....	55,000 00	.....	55,000 00	
1916.....	23,000 00	.....	23,000 00	
				\$78,000 00

*Section No. 6*

Under Seventh avenue from 30th street to 43d street, Borough of Manhattan.

1915.....	51,000 00	.....	51,000 00	
1916.....	19,000 00	.....	19,000 00	
				70,000 00

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS

3. *Seventh Avenue Branch — Concluded*

	Corporate stock	Premium	Proceeds	Total
<i>Section No. 6a</i>				
Under Seventh avenue from 43d street to 45th street, Borough of Manhattan.				
1915.....	12,000 00	.....	12,000 00	
1916.....	20,979 81	.....	20,979 81	
				\$41,979 81
<i>Section No. 1</i>				
Wrecking building, 111 Greenwich street.				
1916.....	6,500 00	.....	6,500 00	6,500 00
Grand total.....	\$757,479 81	.....	\$757,479 81	\$757,479 81

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Continued*

## 4. Park Place, William and Clark Street Route

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Park Place, William and Clark Street Route during the period of:				
<i>Section No. 1</i>				
West Broadway to William street.				
1915.....	\$217,000 00	.....	\$217,000 00	
1916.....	277,000 00	.....	277,000 00	
				\$494,000 00
<i>Section No. 2</i>				
William street to Old Slip.				
1915.....	585,000 00	.....	\$585,000 00	
1916.....	389,000 00	.....	389,000 00	
				974,000 00
<i>Section No. 3</i>				
Old Slip, Borough of Manhattan, East River, Clark street, Borough of Brooklyn.				
1914.....	3,000 00	.....	\$3,000 00	
1915.....	62,000 00	.....	62,000 00	
1916.....	176,000 00	.....	176,000 00	
				340,000 00
Part of R. 5, Sec. 2, Broadway and Park place.				
1916.....	22,065 06	.....	\$22,065 06	22,065 06
Grand total.....	<u>\$1,730,065 06</u>	<u>.....</u>	<u>\$1,730,065 06</u>	<u>\$1,730,065 06</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Continued*

## 5. Lexington Avenue Branch

<i>Section No. 6</i>	Corporate stock	Premium	Proceeds	Total
Lexington avenue from East Twenty-sixth street to East Fortieth street, Borough of Manhattan, New York City.				
1911.....	\$21,600 00	.....	\$21,600 00	
1912.....	152,613 50	.....	152,613 50	
1913.....	68,000 00	.....	68,000 00	
1914.....	58,000 00	.....	58,000 00	
1915.....	11,000 00	.....	11,000 00	
1916.....	.....	.....	.....	\$311,213 50

<i>Section No. 7</i>				
Lexington avenue from East Fortieth street to East Fifty-third street, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	
1912.....	.....	.....	.....	
1913.....	.....	.....	.....	
1914.....	85,000 00	.....	\$85,000 00	
1915.....	344,000 00	.....	344,000 00	
1916.....	328,000 00	.....	328,000 00	707,000 00

<i>Section No. 8</i>				
Lexington avenue from East Fifty-third street to East Sixty-seventh street, Bor- ough of Manhattan, New York City.				
1911.....	43,484 20	.....	\$43,484 20	
1912.....	599,000 00	.....	599,000 00	
1913.....	773,000 00	.....	773,000 00	
1914.....	779,000 00	.....	779,000 00	
1915.....	424,000 00	.....	424,000 00	
1916.....	108,000 00	.....	108,000 00	2,726,484 20

<i>Section No. 9</i>				
Lexington avenue from East Sixty-seventh to East Sev- enty-ninth street, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	
1912.....	381,997 00	.....	\$381,997 00	
1913.....	771,000 00	.....	771,000 00	
1914.....	708,000 00	.....	708,000 00	
1915.....	124,000 00	.....	124,000 00	
1916.....	338,599 44	.....	338,599 44	2,323,596 44

<i>Section No. 10</i>				
Lexington avenue from East Seventy-ninth street to East Ninety-third street, Borough of Manhattan, New York City.				
1911.....	8,072 80	.....	\$8,072 80	
1912.....	347,000 00	.....	347,000 00	
1913.....	1,023,000 00	.....	1,023,000 00	
1914.....	625,000 00	.....	625,000 00	
1915.....	171,000 00	.....	171,000 00	
1916.....	316,000 00	.....	316,000 00	2,490,073 80

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK— *Continued*SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Continued*5. Lexington Avenue Branch — *Continued*

	Corporate stock	Premium	Proceeds	Total
<i>Section No. 11</i>				
Lexington avenue from East Ninety-third street to East One Hundred and Sixth street, Borough of Manhat- tan, New York City.				
1911.....	\$51,000 00	.....	\$51,000 00	
1912.....	769,195 05	.....	769,195 05	
1913.....	875,000 00	.....	875,000 00	
1914.....	554,000 00	.....	554,000 00	
1915.....	195,000 00	.....	195,000 00	
1916.....	300,000 00	.....	300,000 00	
				\$2,744,195 05

<i>Section No. 12</i>				
Lexington avenue from East One Hundred and Sixth street to East One Hundred and Eighteenth street, Bor- ough of Manhattan, New York City.				
1911.....	11,000 00	.....	\$11,000 00	
1912.....	1,254,740 74	.....	1,254,740 74	
1913.....	708,000 00	.....	708,000 00	
1914.....	249,000 00	.....	249,000 00	
1915.....	258,000 00	.....	258,000 00	
1916.....	98,735 86	.....	98,735 86	
				2,639,476 00

<i>Section No. 13</i>				
Lexington avenue from East One Hundred and Eight- eenth street to East One Hundred and Twenty-ninth street, Borough of Manhat- tan, New York City.				
1911.....	.....	.....	.....	
1912.....	361,416 50	.....	\$361,416 50	
1913.....	942,000 00	.....	942,000 00	
1914.....	1,256,000 00	.....	1,256,000 00	
1915.....	687,000 00	.....	687,000 00	
1916.....	265,000 00	.....	265,000 00	
				3,511,416 50

<i>Section No. 14</i>				
From Lexington avenue and East One Hundred and Twenty-ninth street in the Borough of Manhattan under Lexington avenue and Harlem river to Mott avenue in the Borough of The Bronx.				
1911.....	.....	.....	.....	
1912.....	12,775 05	.....	\$12,775 05	
1913.....	1,196,000 00	.....	1,196,000 00	
1914.....	1,985,000 00	.....	1,985,000 00	
1915.....	691,000 00	.....	691,000 00	
1916.....	18,000 00	.....	18,000 00	
				3,902,775 05

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Continued*5. Lexington Avenue Branch — *Concluded*

	Corporation stock	Premium	Proceeds	Total
<i>Section No. 15</i>				
Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-fifth street to East One Hundred and Fifty-seventh street, and to Alexander avenue, Borough of The Bronx, New York City.				
1911.....	.....	.....	.....	.....
1912.....	\$868,129 75	.....	\$868,129 75	.....
1913.....	1,528,000 00	.....	1,528,000 00	.....
1914.....	1,093,000 00	.....	1,093,000 00	.....
1915.....	188,489 61	.....	188,489 61	.....
1916.....	544,510 39	.....	544,510 39	.....
				<u>\$4,222,129 75</u>
42d Street Connection, Routes 43 and 26.				
1915.....	609,000 00	.....	\$609,000 00	.....
1916.....	473,990 00	.....	473,990 00	.....
				<u>1,083,990 00</u>
REAL ESTATE ( <i>entire route</i> )				
1911.....	.....	.....	.....	.....
1912.....	258,000 00	.....	\$258,000 00	.....
1913.....	9,250 39	.....	9,250 39	.....
1914.....	.....	.....	.....	.....
1915.....	.....	.....	.....	.....
1916.....	.....	.....	.....	.....
				<u>267,250 39</u>
Grand total.....	<u>\$26,928,600 28</u>	.....	<u>\$26,928,600 28</u>	<u>\$26,928,600 28</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Continued*

## 6. Jerome Avenue Route

	Corporate stock	Premium	Proceeds	Total
Total amount of the proceeds credited of the corporate stock issued by the City of New York for the construction of the Jerome Avenue Route during the period:				
<i>Section No. 1</i>				
On Jerome avenue, from One Hundred and Fifty-seventh street to One Hundred and Eighty-second street, Borough of The Bronx.				
1914.....	\$9,898 90	.....	\$9,898 90	
1915.....	40,000 00	.....	40,000 00	
1916.....	49,095 97	.....	49,095 97	
				\$98,994 87

<i>Section No. 2</i>				
On Jerome avenue from One Hundred and Eighty-second street to Woodlawn road, Borough of The Bronx.				
1914.....	9,841 55	.....	\$9,841 55	
1915.....	39,000 00	.....	39,000 00	
1916.....	47,200 00	.....	47,200 00	
				96,041 55

## STATION FINISH

<i>Sections Nos. 1 and 2</i>				
1915.....	6,000 00	.....	\$6,000 00	
1916.....	241,000 00	.....	241,000 00	
				247,000 00

## R. R. DUCT LINE

Walton avenue, E. 157th street, Section 1.				
1916.....	10,307 00	.....	\$10,307 00	10,307 00
Grand total.....	<u>\$452,343 42</u>	<u>.....</u>	<u>\$452,343 42</u>	<u>\$452,343 42</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Concluded*

## 7. Southern Boulevard and Westchester Avenue Route

	Corporate stock	Premium	Proceeds	Total
<i>Section No. 1</i>				
Under Southern Boulevard from One Hundred and Thirty-eighth street to One Hundred and Forty-seventh street, Borough of The Bronx, New York City.				
1913.....	\$176,281 75	.....	\$176,281 75	
1914.....	678,000 00	.....	678,000 00	
1915.....	979,000 00	.....	979,000 00	
1916.....	453,000 00	.....	453,000 00	
				\$2,286,281 75
<i>Section No. 1a</i>				
Under Southern Boulevard from East One Hundred and Forty-seventh street to Bancroft street, Bor- ough of The Bronx, New York City.				
1914.....	22,057 96	.....	\$22,057 96	
1915.....	56,000 00	.....	56,000 00	
1916.....	33,000 00	.....	33,000 00	
				111,057 96
<i>Section No. 2</i>				
Bancroft street to Eastern Boulevard.				
1916.....	49,000 00	.....	\$49,000 00	49,000 00
Grand total.....	<u>\$2,446,339 71</u>	<u>.....</u>	<u>\$2,446,339 71</u>	<u>\$2,446,339 71</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 8. WHITE PLAINS ROAD LINE CONSTRUCTION FUNDS

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the White Plains Road Route during the period:				
<i>Section No. 1</i>				
Along Bronx Park East to White Plains Road and Burke street, Borough of The Bronx.				
1914.....	\$6,720 01	.....	\$6,720 01	
1915.....	31,000 00	.....	31,000 00	
1916.....	22,000 00	.....	22,000 00	
				\$59,720 01

<i>Section No. 2</i>				
Along White Plains Road, from Burke street to Two Hundred and Forty-first street, Borough of The Bronx.				
1914.....	23,924 20	.....	\$23,924 20	
1915.....	22,000 00	.....	22,000 00	
1916.....	41,781 62	.....	41,781 62	
				\$7,705 82

## STATION FINISH

<i>Sections Nos. 1 and 2</i>				
1915.....	7,000 00	.....	\$7,000 00	
1916.....	192,000 00	.....	192,000 00	
				199,000 00
Grand total.....	<u>\$346,425 83</u>	<u>.....</u>	<u>\$346,425 83</u>	<u>\$346,425 83</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 9. CONTRACT NO. 3, STEINWAY LINE CONSTRUCTION FUNDS

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Steinway Line.				
<i>Routes 36 and 37, Section No. 1</i>				
Queensboro Bridge Plaza, Ely avenue, Jackson avenue to Beebe avenue with a branch along Queens boulevard to Van Dam street, Borough of Queens.				
1914.....	\$378,859 00	.....	\$378,859 00	
1915.....	422,000 00	.....	422,000 00	
1916.....	226,000 00	.....	226,000 00	
†Transfer to Contract No. 4	\$390,087 89	.....	\$390,087 89	\$635,771 71
<i>Routes 36 and 37, Section No. 2</i>				
Over Second avenue, Beebe avenue to Ditmars avenue, Borough of Queens.				
1913.....	604,743 50	.....	\$604,743 50	
1914.....	256,000 00	.....	256,000 00	
1915.....	.....	.....	.....	.....
1916.....	334 16	.....	334 16	\$61,077 66
<i>Routes 36 and 37, Section No. 3</i>				
Over Queens boulevard and Roosevelt avenue; Van Dam street to Alburis avenue, Borough of Queens.				
1913.....	220,588 00	.....	\$220,588 00	
1914.....	1,764,000 00	.....	1,764,000 00	
1915.....	390,000 00	.....	390,000 00	
1916.....	49,000 00	.....	49,000 00	2,423,588 00
<i>Route No. 26</i>				
Forty-second street and Lexington avenue, Manhattan, East River to Fourth street and Van Alst avenue, Queens.				
1914.....	239,910 75	.....	\$239,910 75	
1915.....	130,000 00	.....	130,000 00	
1916.....	26,584 29	.....	26,584 29	396,495 04
<i>Route No. 50</i>				
From Fourth street and Van Alst avenue, to Queensboro Bridge Plaza, Queens.				
1914.....	8,892 82	.....	\$8,892 82	
1915.....	40,000 00	.....	40,000 00	
1916.....	66,000 00	.....	66,000 00	114,892 82

† Adjustment of allotments transferred to Contract No. 4.

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*9. CONTRACT NO. 3, STEINWAY LINE CONSTRUCTION FUNDS — *Concluded*

	Corporate stock	Premium	Proceeds	Total
<b>STATION FINISH</b>				
<i>Contract No. 3, Routes 36, 37 and 50, Section Nos. 1 and 3</i>				
1915.....	\$13,000 00	.....	\$13,000 00	
1916.....	267,000 00	.....	267,000 00	
			<hr/>	\$280,000 00
<b>STATION FINISH</b>				
<i>Routes 36 and 37</i>				
1915.....	21,000 00	.....	\$21,000 00	
1916.....	171,000 00	.....	171,000 00	
			<hr/>	192,000 00
<b>STORM DRAIN</b>				
<i>Routes No. 36 and 37, Section No. 3</i>				
1916.....	7,004 63	.....	\$7,004 63	7,004 63
<b>R. R. DUCT LINE IN 44TH STREET</b>				
<i>Routes 26 and 50</i>				
1916.....	21,000 00	.....	21,000 00	21,000 00
<b>CHANGES AT GRAND CEN- TRAL</b>				
<i>Route 26</i>				
1916.....	8,000 00	.....	8,000 00	8,000 00
<b>HUNTS POINT AVENUE STATION</b>				
<i>Route 50</i>				
1916.....	26,999 99	.....	26,999 99	26,999 99
Grand total.....	<u>\$4,966,829 85</u>	<u>.....</u>	<u>\$4,966,829 85</u>	<u>\$4,966,829 85</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 10. EASTERN PARKWAY LINE CONSTRUCTION FUNDS

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Eastern Parkway Line.				
CONTRACT NO. 3				
Route 12, Section No. 1				
Flatbush avenue and St. Felix street, to Prospect place, Borough of Brooklyn.				
1914.....	\$36,000 00	.....	\$36,000 00	
1915.....	275,000 00	.....	275,000 00	
1916.....	270,000 00	.....	270,000 00	
CONTRACT NO. 4				
Route 12, Section No. 1				
1914.....	36,000 00	.....	\$36,000 00	
1915.....	309,000 00	.....	309,000 00	
1916.....	270,000 00	.....	270,000 00	
				\$1,196,000 00
CONTRACT NO. 4				
Route 12, Section No. 1b				
Hansen place to Atlantic avenue.				
1916.....	4,000 00	.....	4,000 00	4,000 00
CONTRACT NO. 3				
Route 12, Section No. 1a				
Flatbush avenue, Prospect place to Plaza, Borough of Brooklyn.				
1914.....	105,000 00	.....	\$105,000 00	
1915.....	754,000 00	.....	754,000 00	
1916.....	451,000 00	.....	451,000 00	
CONTRACT NO. 4				
Route 12, Section No. 1a				
1914.....	53,000 00	.....	\$53,000 00	
1915.....	377,000 00	.....	377,000 00	
1916.....	225,020 03	.....	225,020 03	
				1,965,020 03
CONTRACT NO. 4				
Route 12, Section No. 2a				
Under Flatbush avenue, St. John's place to Ocean avenue and Malbone street.				
1916.....	92,000 00	.....	92,000 00	92,000 00
CONTRACT NO. 3				
Route 12, Section No. 2				
Eastern Parkway, Prospect Park Plaza to Nostrand avenue.				
1915.....	11,000 00	.....	\$11,000 00	
1916.....	32,000 00	.....	32,000 00	
				43,000 00

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*10. EASTERN PARKWAY LINE CONSTRUCTION FUNDS — *Concluded*

	Corporate stock	Premium	Proceeds	Total
<b>CONTRACT NO. 3</b>				
<i>Route 12, Section No. 3</i>				
Eastern Parkway, Nostrand avenue to Buffalo avenue.				
1916.....	\$804,000 00	.....	\$804,000 00	\$804,000 00
<b>CONTRACT NO. 3</b>				
<i>Route 29, Section No. 1</i>				
Nostrand avenue, Eastern Parkway to Church avenue.				
1915.....	1,000 00	.....	1,000 00	
1916.....	25,000 00	.....	25,000 00	
			<hr/>	26,000 00
<b>CONTRACT NO. 3</b>				
<i>Route 29, Section No. 2</i>				
Nostrand avenue, Church ave- nue to Flatbush avenue.				
1916.....	32,000 00	.....	32,000 00	32,000 00
Grand total.....	<u>\$3,962,020 03</u>	<u>.....</u>	<u>\$3,962,020 03</u>	<u>\$3,962,020 03</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 11. CONTRACT NO. 3 — CITY OF NEW YORK CONSTRUCTION FUNDS

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for miscellaneous purposes pursuant to contract No. 3.				
Real estate and interest therein.				
1913.....	\$182,000 00	.....	\$182,000 00	
1914.....	68,000 00	.....	68,000 00	
1915.....	126,000 00	.....	126,000 00	
1916.....	869,000 00	.....	869,000 00	
				\$1,245,000 00
<i>Extra Work and Materials</i>				
1914.....	1,290 00	.....	\$1,290 00	1,290 00
<i>Interest on Corporate Stock</i>				
1914.....	644,000 00	.....	644,000 00	
1915.....	1,731,662 26	.....	1,731,662 26	
1916.....	1,278,337 51	.....	1,278,337 51	
				3,653,999 77
<i>Track Materials</i>				
1916.....	1,346,000 00	.....	1,346,000 00	1,346,000 00
<i>Track Installation</i>				
1916.....	214,000 00	.....	214,000 00	214,000 00
<i>Maintenance</i>				
1916.....	500 00	.....	500 00	500 00
Grand total.....	<u>\$6,460,789 77</u>	<u>.....</u>	<u>\$6,460,789 77</u>	<u>\$6,460,789 77</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS

12. *Broadway Route*

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Broadway Subway during the period of:				
<i>Section No. 1</i>				
Under Trinity place and Morris street, Church street to Dey street, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	
1912.....	.....	.....	.....	
1913.....	\$372,269 20	.....	\$372,269 20	
1914.....	770,000 00	.....	770,000 00	
1915.....	208,000 00	.....	208,000 00	
1916.....	36,000 00	.....	36,000 00	
				\$1,386,269 20

<i>Section No. 1a</i>				
Dey street under Church street, private property, Vesey street, private property to Broadway, to Park place, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	
1912.....	.....	.....	.....	
1913.....	230,740 70	.....	\$230,740 70	
1914.....	752,000 00	.....	752,000 00	
1915.....	.....	.....	.....	
1916.....	.....	.....	.....	
				982,740 70

<i>Section No. 2</i>				
Under Broadway from Park place to Walker street, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	
1912.....	610,828 50	.....	\$610,828 50	
1913.....	937,000 00	.....	937,000 00	
1914.....	489,000 00	.....	489,000 00	
1915.....	140,000 00	.....	140,000 00	
1916.....	388,990 05	.....	388,990 05	
				2,565,818 55

<i>Section No. 2a</i>				
Under Broadway from Walker street to Howard street, including the underlying portion of the Canal Street route at Canal street and Broadway, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	
1912.....	51,351 60	.....	\$51,351 60	
1913.....	389,000 00	.....	389,000 00	
1914.....	331,000 00	.....	331,000 00	
1915.....	84,000 00	.....	84,000 00	
1916.....	53,837 91	.....	53,837 91	
				909,189 51

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*12. *Broadway Route — Concluded*

	Corporate stock	Premium	Proceeds	Total
<i>Section No. 3</i>				
Under Broadway from Howard street to Bleecker street, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	.....
1912.....	\$680,086 50	.....	\$680,086 50	.....
1913.....	917,000 00	.....	917,000 00	.....
1914.....	191,000 00	.....	191,000 00	.....
1915.....	74,000 00	.....	74,000 00	.....
1916.....	330,706 45	.....	330,706 45	.....
				<u>\$2,192,792 95</u>

<i>Section No. 4</i>				
Under Broadway from Bleecker street to Union square, Borough of Manhattan, New York City.				
1911.....	.....	.....	.....	.....
1912.....	.....	.....	.....	.....
1913.....	178,000 00	.....	\$178,000 00	.....
1914.....	1,551,078 00	.....	1,551,078 00	.....
1915.....	593,000 00	.....	593,000 00	.....
1916.....	260,000 00	.....	260,000 00	.....
				<u>2,582,078 00</u>

## STATION FINISH

*Route 5, Sections No.**1 to 4*

1916.....	137,000 00	.....	137,000 00	137,000 00
Grand total.....	<u>\$10,755,888 91</u>	.....	<u>\$10,755,888 91</u>	<u>\$10,755,888 91</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*13. *Broadway-Fifty-ninth Street Route*

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Broadway-Fifty-ninth Street Subway during the period of:				
<i>Section No. 1</i>				
Under Broadway from Union square to Twenty-sixth street, Borough of Manhattan, New York City.				
1913.....	\$71,702 50	.....	\$71,702 50	
1914.....	1,054,000 00	.....	1,054,000 00	
1915.....	697,000 00	.....	697,000 00	
1916.....	195,000 00	.....	195,000 00	
				\$2,017,702 50
<i>Section No. 2</i>				
Under Broadway from Twenty-sixth street to Thirty-eighth street, Borough of Manhattan.				
1913.....	.....	.....	.....	.....
1914.....	69,000 00	.....	\$69,000 00	
1915.....	1,108,000 00	.....	1,108,000 00	
1916.....	807,000 00	.....	807,000 00	
				1,984,000 00
<i>Section No. 3</i>				
Thirty-eighth street to Fifty-first street.				
1915.....	77,000 00	.....	\$77,000 00	
1916.....	1,150,000 00	.....	1,150,000 00	
				1,227,000 00
<i>Section No. 4</i>				
Fifty-first street to Fifty-ninth street.				
1915.....	105,000 00	.....	\$105,000 00	
1916.....	634,000 00	.....	634,000 00	
				739,000 00
<i>Section No. 5</i>				
Under Fifty-ninth and Sixtieth streets from Seventh avenue to Second avenue, Borough of Manhattan.				
1913.....	.....	.....	.....	.....
1914.....	43,000 00	.....	43,000 00	
1915.....	348,000 00	.....	348,000 00	
1916.....	588,000 00	.....	588,000 00	
				979,000 00
<b>STATION FINISH</b>				
<i>Routes 4 and 36</i>				
Twenty-third and Twenty-eighth street Stations.				
1916.....	3,000 00	.....	\$3,000 00	3,000 00
Grand total.....	\$6,949,702 50	.....	\$6,949,702 50	\$6,949,702 50

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## CONTRACT NO. 4, BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS

14. *Queens Lines*

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Broadway-Fourth Avenue Line, Borough of Queens.				
<i>Routes 36 and 37, Section No. 1</i>				
Portion of structure at Queensboro Bridge Plaza.				
1916. Transferred from Contract No. 3.....	\$390,087 29	.....	\$390,087 29	
1916.....	114,000 00	.....	114,000 00	
			<hr/>	\$504,087 29

## STATION FINISH

## CONTRACT NO. 4

*Routes 36, 37 and 50, Section No. 1*

1916.....	31,000 00	.....	\$31,000 00	31,000 00
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## BLACKWELL'S ISLAND

## TUNNEL

*Route 61*

1916.....	121,000 00	.....	121,000 00	121,000 00
Grand total.....	<hr/> \$656,087 29	<hr/>	<hr/> \$656,087 29	<hr/> \$656,087 29

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*15. *Brooklyn-Manhattan Loop Lines (Manhattan Sections)*

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Brooklyn-Manhattan Loop Lines (Manhattan Sections) during the period of:				
<i>Section 9-O-1</i>				
Centre street from Pearl street to Park row, Borough of Manhattan, New York City.				
*1907.....	\$46,000 00	.....	\$46,000 00	
1908.....	170,000 00	\$5,190 18	175,190 18	
1909.....	80,000 00	585 12	80,585 12	
1910.....	85,600 00	626 08	86,226 08	
1911.....	516,068 00	4,090 57	520,158 57	
1912.....	519,651 74	3,019 96	522,671 70	
1913.....	258,750 00	1,728 46	260,478 46	
1914.....	173,000 00	.....	173,000 00	
1915.....	.....	.....	.....	
1916.....	584 97	.....	584 97	
				\$1,863,785 14

<i>Section 9-O-2</i>				
Centre street from Pearl street to Canal street, Borough of Manhattan, New York City.				
*1907.....	163,000 00	.....	\$163,000 00	
1908.....	1,275,602 80	42,558 09	1,318,160 89	
1909.....	810,000 00	7,092 19	817,092 19	
1910.....	379,000 00	2,772 03	381,772 03	
1911.....	230,000 00	1,841 78	231,841 78	
1912.....	.....	.....	.....	
1913.....	67,548 20	505 98	68,054 18	
1914.....	.....	.....	.....	
1915.....	.....	.....	.....	
1916.....	43,842 27	.....	43,842 27	
				3,023,783 24

<i>Section 9-O-3</i>				
Centre street from Canal street to Broome street, Borough of Manhattan, New York City.				
*1907.....	91,000 00	.....	\$91,000 00	
1908.....	850,000 00	32,176 63	882,176 63	
1909.....	677,355 00	6,546 53	683,901 53	
1910.....	319,500 00	2,336 84	321,836 84	
1911.....	.....	.....	.....	
1912.....	.....	.....	.....	
1913.....	61,286 00	459 07	61,745 07	
1914.....	.....	.....	.....	
1915.....	.....	.....	.....	
1916.....	877 46	.....	877 46	
				2,039,782 61

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*15. Brooklyn-Manhattan Loop Lines (Manhattan Sections) — *Concluded*

	Corporate stock	Premium	Proceeds	Total
<i>Section 9-0-4</i>				
New extension of Delancey street from Centre street to the Bowery, Borough of Manhattan, New York City.				
*1907.....	\$15,000 00		\$15,000 00	
1908.....	399,000 00	\$14,194 32	413,194 32	
1909.....	709,000 00	6,039 01	715,039 01	
1910.....	310,000 00	2,267 34	312,267 34	
1911.....	236,943 00	2,049 03	238,992 03	
1912.....	18,000 00	134 83	18,134 83	
1913.....				
1914.....				
1915.....				
1916.....	778 99		778 99	\$1,711,854 54
<i>Section 9-0-5</i>				
Delancey street between the Bowery and Norfolk street, Borough of Manhattan, New York City.				
*1907.....	95,000 00		95,000 00	
1908.....	670,000 00	22,980 54	692,980 54	
1909.....	194,000 00	1,578 85	195,578 85	
1910.....				
1911.....	189,436 00	1,663 99	191,099 99	
1912.....				
1913.....				
1914.....				
1915.....				
1916.....	1,460 80		1,460 80	1,173,199 08
<b>REAL ESTATE</b>				
<i>Sections 9-0-1, 9-0-2, 9-0-3, 9-0-4, 9-0-5 (entire route)</i>				
Real estate and interest therein.				
*1907.....				
1908.....	255,145 00	6,812 79	\$261,957 79	
1909.....	144,000 00	43 89	144,043 89	
1910.....	23,480 00	46 81	23,526 81	
1911.....	1,732,795 00	14,138 51	1,746,933 51	
1912.....	821,000 00	14 98	821,014 98	
1913.....	133,000 00	82 41	133,082 41	
1914.....				
1915.....				
1916.....	5,000 00		5,000 00	3,135,539 39
<b>Maintenance.</b>				
*1907.....				
1908.....				
1909.....				
1910.....	900 00		\$900 00	
1911.....	1,100 00	9 68	1,109 68	
1912.....	2,000 00	3 75	2,003 75	
1913.....	1,000 00		1,000 00	
1914.....				
1915.....				
1916.....	147 96		147 96	4,865 47
Grand total.....	\$12,952,789 57		\$12,952,789 57	\$12,952,789 57

\* For the six months ended December 31, 1907.

**LXXXIV. RECAPITULATION — Continued****CORPORATE STOCK — Continued****BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued****16. Whitehall-Montague Street Route**

	Corporate stock	Premium	Proceeds	Total
Total amount of the proceeds credited of the corporate stock issued by the City of New York for the construction of the Whitehall-Montague Street Route during the period:				
<i>Route 33, Section 1</i>				
Whitehall street, Battery place to South street, Borough of Manhattan.				
1913.....				
1914.....	\$38,000 00		\$38,000 00	
1915.....	505,000 00		505,000 00	
1916.....	476,000 00		476,000 00	
				\$1,019,000 00
<i>Route 33, Section 2</i>				
1915.....	1,424,000 00		\$1,424,000 00	
1916.....	2,452,000 00		2,452,000 00	
				3,876,000 00
<b>CONTRACT NO. 3</b>				
<i>Route 33, Section 3</i>				
1915.....	267,000 00		\$267,000 00	
1916.....	518,000 00		518,000 00	
				785,000 00
<b>CONTRACT NO. 4</b>				
<i>Route 33, Section 3</i>				
1915.....	144,000 00		\$144,000 00	
1916.....	962,000 00		962,000 00	1,106,000 00
Grand total.....	<u>\$6,786,000 00</u>		<u>\$6,786,000 00</u>	<u>\$6,786,000 00</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*

## 17. Canal Street Route

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Canal Street Route during the period:				
<i>Route 20, Section No. 2</i>				
1913.....	.....	.....	.....	.....
1914.....	\$20,000 00	.....	\$20,000 00	
1915.....	816,000 00	.....	816,000 00	
1916.....	667,000 00	.....	667,000 00	
Grand total.....	<u>\$1,503,000 00</u>	<u>.....</u>	<u>\$1,503,000 00</u>	<u>\$1,503,000 00</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*

## 18. Brooklyn (Fourth Avenue) Subway

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Brooklyn (Fourth Avenue) Subway during the period of:				
<i>Section M-B-Ex. 1</i>				
Flatbush avenue extension from Nassau street to Willoughby street, Borough of Brooklyn, New York City.				
1909.....	\$255,000 00	\$3,242 74	\$258,242 74	
1910.....	462,851 10	4,334 99	467,186 09	
1911.....	229,000 00	936 33	229,936 33	
1912.....	100,000 00	749 06	100,749 06	
1913.....				
1914.....				
1915.....				
1916.....	1,084 79		1,084 79	
				\$1,055,029 43

*Section 9-C-1*

Flatbush avenue extension and Fulton street from Willoughby street to Ashland place, Borough of Brooklyn, New York City.				
1909.....	536,000 00	6,059 49	\$542,059 49	
1910.....	1,278,714 00	12,211 34	1,290,925 34	
1911.....	917,000 00	4,018 72	921,018 72	
1912.....	316,000 00	2,292 33	318,292 33	
1913.....	373,000 00		373,000 00	
1914.....				
1915.....				
1916.....	770 18		770 18	
				3,444,525 70

*Sections 11-E-1 and 11-**A-1*

Ashland place and Fourth avenue from Fulton street to Sackett street, Borough of Brooklyn, New York City.				
1909.....	476,500 00	5,881 44	\$482,381 44	
1910.....	1,489,726 50	13,950 80	1,503,677 30	
1911.....	914,000 00	3,295 87	917,295 87	
1912.....	215,000 00	1,610 49	216,610 49	
1913.....	323,000 00		323,000 00	
1914.....				
1915.....				
1916.....	405 84		405 84	
				3,442,559 26

*Section 11-A-2*

Fourth avenue from Sackett street to Tenth street, Borough of Brooklyn, New York City.				
1909.....	647,300 00	8,214 97	\$655,514 97	
1910.....	1,045,925 30	9,718 19	1,055,643 49	
1911.....	292,000 00	1,209 74	293,209 74	
1912.....	267,000 00	2,000 00	269,000 00	
1913.....				
1914.....				
1915.....				
1916.....	3,314 87		3,314 87	
				2,270,053 93

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*18. Brooklyn (Fourth Avenue) Subway — *Continued*

	Corporate stock	Premium	Proceeds	Total
<b>Section 11-A-3</b>				
Fourth avenue from Tenth street to Twenty-seventh street, Borough of Brooklyn, New York City.				
1909				
1910	726,500 00	9,238 67	\$735,738 67	
1911	811,216 50	7,695 86	818,912 36	
1912	489,000 00	2,606 74	491,606 74	
1913				
1914				
1915				
1916	8,195 48		8,195 48	\$2,043,062 31
<b>Section 11-A-4</b>				
Fourth avenue from Twenty-seventh street to Forty-second street, Borough of Brooklyn, New York City.				
1909				
1910	901,600 00	11,362 33	\$912,962 33	
1911	1,249,047 80	11,872 11	1,260,919 91	
1912	297,000 00	794 01	297,794 01	
1913	298,000 00	2,232 22	300,232 22	
1914				
1915				
1916	8,842 30		8,842 30	2,769,096 17
<b>Section 11-B-1</b>				
Fourth avenue from Fortieth street to Sixty-first street, Borough of Brooklyn, New York City.				
1913	430,258 50		\$430,258 50	
1914	1,102,000 00		1,102,000 00	
1915	314,000 00		314,000 00	
1916	27,069 11		27,069 11	1,873,327 61
<b>Section 11-B-2</b>				
Fourth avenue from Sixty-first street to Eighty-ninth street, Borough of Brooklyn, New York City.				
1913	340,171 25		\$340,171 25	
1914	892,000 00		892,000 00	
1915	553,000 00		553,000 00	
1916	39,599 19		39,599 19	1,824,770 44
<b>REAL ESTATE</b>				
Sections M-B-Ex. 1, 9-C-1, 11-E-1 and 11-A-1, 11-A-2, 11-A-3 and 11-A-4 (entire route)				
Real estate and interest there-in.				
1909				
1910	23,452 10	6 36	\$23,458 46	
1911	8,047 90	53 11	8,101 01	
1912	30,500 00	64 96	30,564 96	
1913	132,000 00		132,000 00	
1914	6,000 00		6,000 00	200,124 43

**LXXXIV. RECAPITULATION — Continued****CORPORATE STOCK — Continued****BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued****18. Brooklyn (Fourth Avenue) Subway — Concluded**

	Corporate stock	Premium	Proceeds	Total
Extra work and materials.				
1909.....				
1910.....	4,500 00		\$4,500 00	
1911.....	8,500 00	21 96	8,521 96	
1912.....	112,000 00	599 24	112,599 24	
1913.....	55,000 00	411 97	55,411 97	
1914.....	20,000 00		20,000 00	
1915.....				
1916.....	5,770 80		5,770 50	
				\$195,262 67

**Section M-B-Ex. 1  
(special)**

Extra work and materials.				
1913.....	30,458 00	228 15	\$30,686 15	
1916.....	228 15		228 15	
				30,458 00
Maintenance.				
1909.....				
1910.....				
1911.....				
1912.....	2,000 00		\$2,000 00	
1913.....	3,000 00		3,000 00	
1914.....				
1915.....				
1916.....	58 49		58 49	
				4,917 51

**STATION FINISH****11-B-1 and 11-B-2**

1915.....	\$210,000 00		\$210,000 00	
1916.....	34,833 86		34,833 86	
				244,833 86

**COMPLETION OF CON-  
STRUCTION AND STATION  
FINISH**

1915.....	32,000 00		\$32,000 00	
1916.....	13,676 25		13,676 25	
				45,676 25

**CROSSOVERS****Section 9-C-1**

DeKalb avenue.				
1915.....	84,000 00		\$84,000 00	
1916.....	48,000 00		48,000 00	
				132,000 00

**SEWER CONSTRUCTION****Section 11-E-1, 11-A-1**

1915.....	15,233 75		\$15,233 75	
1916.....	56 31		56 31	
				15,177 44

**FOURTH AVENUE STATION****PLATFORMS**

1915.....	4,000 00		\$4,000 00	
1916.....	214 56		214 56	
				3,785 45

Grand total.....	\$19,467,716 27	\$126,914 19	\$19,594,630 45	\$19,594,630 45
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LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Concluded*19. *New Utrecht Avenue Route*

	Corporate stock	Premium	Proceeds	Total
Total amount of the proceeds credited of the corporate stock issued by the City of New York for the construction of the New Utrecht Avenue Route during the period:				
<i>Route 39, Section 2</i>				
Along New Utrecht Avenue, from Thirty-ninth street and Tenth avenue to Eighty-sixth street and Stillwell avenue to Coney Island.				
1913.....	.....	.....	.....	
1914.....	\$472,190 00	.....	\$472,190 00	
1915.....	976,000 00	.....	976,000 00	
1916.....	233,850 03	.....	233,850 03	
				<u>\$1,682,040 03</u>
STATION FINISH				
1916.....	220,000 00	.....	\$220,000 00	220,000 00
Grand total.....	<u>\$1,902,040 03</u>	<u>.....</u>	<u>\$1,902,040 03</u>	<u>\$1,902,040 03</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 20. CULVER LINE

	Corporate stock	Premiums	Proceeds	Total
Total amount of the proceeds credited of the corporate stock issued by the City of New York for the construction of the New Utrecht Avenue Route during the period:				
<i>Route 49, Section 1</i>				
1915.....	\$8,000 00	.....	\$8,000 00	
1916.....	332,000 00	.....	332,000 00	
				\$440,000 00
<i>Route 49, Section 2</i>				
1915.....	35,000 00	.....	\$35,000 00	
1916.....	426,000 00	.....	426,000 00	
				461,000 00
Grand total.....	\$801,000 00	.....	\$801,000 00	\$801,000 00

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 21. FOURTEENTH STREET—EASTERN LINE

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for the construction of the Fourteenth Street Eastern Line.				
<i>Route 8, Section 1</i>				
Fourteenth street—Sixth avenue to Irving place.				
1916.....	\$11,000 00	.....	\$11,000 00	\$11,000 00
<i>Route 8, Section 2</i>				
Fourteenth street—Irving place to Avenue B.				
1916.....	29,000 00	.....	29,000 00	29,000 00
<i>Route 8, Section 3</i>				
Fourteenth street—Avenue B, Manhattan, to Bedford avenue, Brooklyn.				
1916.....	354,000 00	.....	354,000 00	354,000 00
<i>Route 8, Section 4</i>				
North Seventh street and Metropolitan avenue, Bedford avenue to Manhattan avenue.				
1916.....	12,000 00	.....	12,000 00	12,000 00
<i>Route 8, Section 5</i>				
Metropolitan avenue and Bushwick avenue, Manhattan avenue to Meserole street.				
1916.....	62,000 00	.....	62,000 00	62,000 00
Grand total.....	<u>\$468,000 00</u>	<u>.....</u>	<u>\$468,000 00</u>	<u>\$468,000 00</u>

LXXXIV. RECAPITULATION — *Continued*CORPORATE STOCK — *Continued*

## 22. CONTRACT NO. 4 — CITY OF NEW YORK CONSTRUCTION FUNDS

	Corporate stock	Premium	Proceeds	Total
Total amount of proceeds credited of the corporate stock issued by the City of New York for miscellaneous purposes pursuant to Contract No. 4.				
<i>Real Estate and Interest Therein</i>				
1913.....	\$257,350 00	.....	\$257,350 00	
1914.....	812,650 00	.....	812,650 00	
1915.....	555,000 00	.....	555,000 00	
1916.....	692,000 00	.....	692,000 00	
				\$2,317,000 00
<i>Extra Work and Material</i>				
1913.....	14,000 00	.....	\$14,000 00	
1914.....	6,000 00	.....	6,000 00	
1915.....	384,928 67	.....	384,928 67	
1916.....	3,000 00	.....	3,000 00	
				407,928 67
<i>Interest on Corporate Stock</i>				
1913.....	.....	.....	.....	
1914.....	1,000,000 00	.....	\$1,000,000 00	
1915.....	2,421,247 51	.....	2,421,247 51	
1916.....	2,762,752 49	.....	2,762,752 49	
				6,184,000 00
<i>Track Materials</i>				
1913.....	.....	.....	.....	
1914.....	321,708 97	.....	\$321,708 97	
1915.....	297,000 00	.....	297,000 00	
1916.....	277,100 00	.....	277,100 00	
				895,808 97
<i>Track Installation</i>				
<i>Contract 4, Routes 11-A, 11-B</i>				
1914.....	29,000 00	.....	\$29,000 00	
1915.....	163,000 00	.....	163,000 00	
1916.....	25,880 00	.....	25,880 00	
				217,880 00
<i>Route 39, Section 2</i>				
1915.....	4,000 00	.....	4,000 00	
1916.....	53,355 00	.....	53,355 00	
				57,355 00
<i>Routes 4 and 36, 5, 20, 33</i>				
1916.....	14,000 00	.....	14,000 00	
				14,000 00
<i>Routes 36, 37 and 50</i>				
1916.....	4,300 00	.....	4,300 00	
				4,300 00

LXXXIV. RECAPITULATION — *Concluded*CORPORATE STOCK — *Concluded*22. CONTRACT NO. 4 — CITY OF NEW YORK CONSTRUCTION FUNDS — *Concluded*

	Corporate stock	Premium	Proceeds	Total
<i>Relocation of tracks on Manhattan Bridge.</i>				
Relocation of tracks on Man- hattan Bridge.				
1915.....	\$1,300 00	.....	\$1,300 00	\$1,300 00
CONTRACT NO. 4				
Supply of varnish for station finish.				
1916.....	1,000 00	.....	1,000 00	\$1,000 00
Changes at Chambers Street Station (Broadway-Fourth Avenue Route.)				
1916.....	2,180 00	.....	2,180 00	2,180 00
Grand total.....	<u>\$10,102,750 64</u>	<u>.....</u>	<u>\$10,102,750 64</u>	<u>\$10,102,750 4</u>

**LXXXV. RECAPITULATION**  
**CONSTRUCTION FUNDS, 1900-1916**  
**DISBURSEMENTS**

**1. MANHATTAN-THE BRONX CONSTRUCTION FUND**

YEAR	Work and materials	Extra work and materials	Terminals	Real estate	Interest on corporate stock	Total
Total amount of disbursements made in the construction of the Manhattan-The Bronx Rapid Transit Railroad during the period:						
1900. Amount of disbursements	\$1,685,000 00	.....	.....	.....	.....	\$1,685,000 00
1901. Amount of disbursements	10,343,000 00	\$162,000 00	.....	\$9,515 45	\$165,013 90	10,679,529 35
1902. Amount of disbursements	11,436,000 00	631,000 00	.....	141,391 72	547,031 41	12,755,423 13
1903. Amount of disbursements	6,930,000 00	2,563,021 47	\$1,048,251 72	512,004 90	947,481 56	12,000,759 05
1904. Amount of disbursements	3,220,000 00	932,394 61	.....	863,195 62	1,305,865 78	7,023,114 29
1905. Amount of disbursements	869,000 00	4,950 00	701,748 28	163,622 76	729,092 68	1,796,665 44
1906. Amount of disbursements	.....	6,000 00	.....	76,709 68	.....	81,709 68
†1907. Amount of disbursements	.....	769,211 96	.....	23,381 73	.....	782,593 69
Total	\$34,483,000 00	\$5,058,488 04	\$1,750,000 00	\$1,788,821 76	\$3,694,485 33	\$46,774,795 13
†1907. Amount of disbursements	.....	482,225 47	.....	454 20	.....	482,679 67
1908. Amount of disbursements	.....	154,624 60	.....	546,296 15	.....	905,745 63
1909. Amount of disbursements	204,825 18	211,329 28	.....	10,775 31	.....	222,104 59
1910. Amount of disbursements	.....	1,233,033 27	.....	3,716 04	.....	1,236,749 31
1911. Amount of disbursements	.....	582,124 89	.....	255,701 62	.....	837,826 41
1912. Amount of disbursements	.....	131,684 55	.....	56,403 62	.....	188,088 07
1913. Amount of disbursements	.....	67,530 14	.....	13,423 84	.....	80,953 98
1914. Amount of disbursements	.....	9,856 83	.....	13,055 74	.....	22,912 57
1915. Amount of disbursements	.....	5,717 67	.....	.....	.....	5,717 67
1916. Amount of disbursements	.....	14,924 38	.....	1,000 00	.....	16,924 38
Grand total	\$34,687,825 18	\$7,951,539 12	\$1,750,000 00	\$2,689,648 08	\$3,694,485 33	\$50,778,497 71
Total amount of Manhattan-The Bronx Construction Fund disbursements from 1900 to 1916, inclusive						

\* The total amount of interest on the corporate stock issued was applied to the " Rapid Transit Railroad Rental " account, Manhattan and The Bronx.

† For the six months ended June 30, 1907.

‡ For the six months ended December 31, 1907.

**LXXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1902-1915**  
**DISBURSEMENTS — Continued**

**2. BROOKLYN-MANHATTAN CONSTRUCTION FUND**

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock	Total
Total amount of disbursements made in the construction of the Brooklyn-Manhattan Rapid Transit Railroad during the period:					
1903. Amount of disbursements.....	\$202,457 06	.....	\$708 80	\$5 87	\$203,166 73
1904. Amount of disbursements.....	620,425 62	.....	1,200 00	20,196 40	641,822 02
1905. Amount of disbursements.....	491,504 53	\$52,895 00	2,450 80	50,533 59	627,383 92
1906. Amount of disbursements.....	314,718 97	457,081 87	9,176 76	63,975 56	844,953 16
*1907. Amount of disbursements.....	80,058 02	235,805 73	15,263 89	41,778 75	372,926 39
Total.....	\$1,709,164 20	\$755,782 60	\$28,818 25	\$176,490 17	\$2,690,255 22
†1907. Amount of disbursements.....	32,009 15	156,768 05	2,030 99	42,516 53	233,924 69
1908. Amount of disbursements.....	112,135 27	589,319 76	51,645 37	120,037 50	882,137 90
1909. Amount of disbursements.....	.....	52,108 29	10,665 24	.....	62,773 53
1910. Amount of disbursements.....	.....	295,168 45	750 00	.....	295,918 45
1911. Amount of disbursements.....	.....	79,924 09	20,910 05	.....	100,834 14
1912. Amount of disbursements.....	.....	2,854 08	728,710 22	.....	731,573 30
1913. Amount of disbursements.....	.....	157,260 45	123,572 86	.....	280,833 31
1914. Amount of disbursements.....	.....	37 84	99,641 72	.....	99,679 56
1915. Amount of disbursements.....	.....	20,000 00	285,932 40	.....	305,932 40
1916. Amount of disbursements.....	.....	979 23	5,699 44	.....	6,678 67
Grand total.....	\$1,853,908 62	\$2,130,202 84	\$1,368,385 51	\$348,044 20	\$5,690,541 17
Total amount of Brooklyn-Manhattan Construction Fund disbursements from 1902 to 1916, inclusive.....					\$5,690,541 17

\* For the six months ended June 30, 1907.

† For the six months ended December 31, 1907.

‡ The total amount of interest on the corporate stock issued was applied to the account Rapid Transit Railroad Rental — Brooklyn-Manhattan.

LXXXV. RECAPITULATION — Continued  
 CONSTRUCTION FUNDS, 1914-1916  
 DISBURSEMENTS — Continued  
 SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS  
 3. Seventh Avenue Branch

YEAR	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the Seventh Avenue-Lexington Avenue Subway during the period of:						
Section 1-A (South Ferry to Battery place and Greenwich street)						
1914. Amount of disbursements	\$15,624 91	\$15,624 91	.....	.....	\$31,249 82	
1915. Amount of disbursements	131,469 79	131,469 82	.....	.....	262,939 61	
1916. Amount of disbursements	65,972 33	65,972 37	.....	.....	131,944 70	\$426,134 13
Section No. 1 (Greenwich street-Battery place to Vesey street)						
1914. Amount of disbursements	3,785 91	71,923 59	.....	.....	\$75,718 50	
1915. Amount of disbursements	44,483 80	845,192 81	.....	.....	889,676 61	
1916. Amount of disbursements	39,868 11	733,364 17	.....	.....	771,962 28	1,737,387 39
Section No. 2 (Vesey street-West Broadway to Beach street)						
1914. Amount of disbursements	12,085 63	229,627 17	.....	.....	\$241,712 80	
1915. Amount of disbursements	68,994 83	1,310,968 72	.....	.....	1,379,963 65	
1916. Amount of disbursements	44,034 84	836,577 18	.....	.....	880,607 52	2,502,218 97
Section No. 3 (Varick street-Seventh avenue extension, Beach street to Commerce street)						
1914. Amount of disbursements	\$38,516 66	\$731,816 86	.....	.....	\$770,333 52	
1915. Amount of disbursements	48,896 57	929,024 61	.....	.....	977,921 18	
1916. Amount of disbursements	53,510 10	414,968 85	.....	.....	468,469 95	2,216,783 65
Section No. 4 (Seventh avenue-Commerce street to Sixteenth street)						
1914. Amount of disbursements	\$13,511 09	\$255,710 89	.....	.....	\$270,221 98	
1915. Amount of disbursements	28,793 51	647,077 35	.....	.....	675,870 86	
1916. Amount of disbursements	35,970 51	683,446 42	.....	.....	719,416 23	1,565,509 07

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1914-1916

## DISBURSEMENTS — Continued

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — Continued

## 3. Seventh Avenue Branch — Concluded

YEAR	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
<b>Section No. 5 (Seventh avenue-Sixteenth street to Thirtieth street)</b>						
1914. Amount of disbursements.....	\$29,952 59	\$599,099 37	.....	.....	\$599,061 96	
1915. Amount of disbursements.....	53,293 81	1,012,592 61	.....	.....	1,065,876 32	
1916. Amount of disbursements.....	24,571 95	466,867 34	.....	.....	491,439 29	\$2,156,367 87
<b>Section No. 6 (Seventh avenue-Thirtieth street to Forty-third street)</b>						
1914. Amount of disbursements.....	21,619 75	410,775 12	.....	.....	\$432,394 87	
1915. Amount of disbursements.....	51,324 65	975,168 85	.....	.....	1,026,493 50	
1916. Amount of disbursements.....	19,227 14	365,315 95	.....	.....	384,543 09	1,843,431 46
<b>Section No. 6-A (Seventh avenue-Forty-third street to Forty-fifth street)</b>						
1914. Amount of disbursements.....	6,161 69	117,072 16	.....	.....	\$123,233 85	
1915. Amount of disbursements.....	12,443 61	236,423 80	.....	.....	248,872 41	
1916. Amount of disbursements.....	30,374 51	46,983 24	.....	.....	77,361 25	449,467 51
Extra work. Removal of buildings, 111-123 Greenwich street. R. 4 and 38, Sec. 1.....	6,500 00	.....	.....	.....	.....	
Grand total.....	\$599,714 19	\$12,004,055 65	.....	.....	.....	
Total amount of the Seventh Avenue-Lexington Avenue Rapid Transit Construction Fund disbursements for the period of 1914-1916.....						\$12,903,719 75

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — *Continued*  
CONSTRUCTION FUNDS, 1915-1916

DISBURSEMENTS — *Continued*

SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — *Continued*

4. *Park Place, William and Clark Street Route*

YEAR	Work and materials—city funds	Work and materials—U. S. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Park Place, William and Clark Street Rapid Transit Railroad during the period of:						
Section No. 1. (Park place and Beekman street, West Broadway to William street.)						
1915. Amount of disbursements. . . . .	\$216,127 22	\$216,127 26	.....	.....	\$432,254 48	
1916. Amount of disbursements. . . . .	277,241 95	277,241 99	.....	.....	554,483 94	\$986,738 42
Section No. 2. (William street, Beekman street to Old Slip.)						
1915. Amount of disbursements. . . . .	584,597 56	584,597 61	.....	.....	\$1,169,195 17	
1916. Amount of disbursements. . . . .	388,750 86	388,750 90	.....	.....	777,501 76	1,946,696 93
Section No. 3. (Under East river, from Old Slip, Manhattan, to Clark street, Brooklyn, Pearl street to Liberty place.)						
1914. Amount of disbursements. . . . .	2,535 02	23,655 46	.....	.....	\$26,190 48	
1915. Amount of disbursements. . . . .	62,561 62	1,188,670 81	.....	.....	1,251,232 43	
1916. Amount of disbursements. . . . .	176,703 28	3,338,362 09	.....	.....	3,514,065 37	4,791,488 28
	\$1,707,517 51	\$6,017,406 12	.....	.....	.....	
Total amount of the Park Place, William and Clark Street Rapid Transit Railroad Construction Fund disbursements for the period, 1914-1916. . . . .					\$7,724,923 63	

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1911-1916

## DISBURSEMENTS — Continued

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — Continued

## 5. Lexington Avenue Branch

YEAR	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Lexington Avenue Subway during the period of:						
†Section No. 6. (Under Lexington avenue, from East Twenty-sixth street to East Fortieth street.)						
1911. Amount of disbursements.....	\$21,578 58	.....	.....	.....	\$21,578 58	
1912. Amount of disbursements.....	149,421 53	.....	.....	.....	149,421 53	
1913. Amount of disbursements.....	70,214 50	.....	.....	.....	70,214 50	
1914. Amount of disbursements.....	58,871 63	.....	.....	.....	58,871 63	
1915. Amount of disbursements.....	11,110 18	.....	.....	.....	11,110 18	
1916. Amount of disbursements.....	.....	.....	.....	.....	.....	\$311,196 42
Section No. 7. (Under Lexington avenue, from East Fortieth street to Fifty-third street.)						
1912. Amount of disbursements.....	.....	.....	.....	.....	.....	
1913. Amount of disbursements.....	.....	.....	.....	.....	.....	
1914. Amount of disbursements.....	34,603 49	\$34,603 51	.....	.....	\$69,207 00	
1915. Amount of disbursements.....	344,225 61	344,225 64	.....	.....	688,451 25	
1916. Amount of disbursements.....	327,738 53	327,738 59	.....	.....	655,477 12	1,413,135 37
Sec on No. 8. (Under Lexington avenue, from East Fifty-third street to Sixty-seventh street.)						
1911. Amount of disbursements.....	43,249 05	.....	.....	.....	\$43,249 05	
1912. Amount of disbursements.....	598,591 12	.....	.....	.....	598,591 12	
1913. Amount of disbursements.....	772,903 88	.....	.....	.....	772,903 88	
1914. Amount of disbursements.....	770,348 42	.....	.....	.....	770,348 42	

1915. Amount of disbursements.....	423,488 94	.....	.....	423,488 94
1916. Amount of disbursements.....	108,568 94	.....	.....	108,568 94
<b>Section No. 9. (Under Lexington avenue, from East Sixty-ninth street to East Seventy-ninth street.)</b>				<b>2,726,150 35</b>
1911. Amount of disbursements.....	379,327 60	.....	.....	379,327 60
1912. Amount of disbursements.....	772,812 57	.....	.....	772,812 57
1913. Amount of disbursements.....	707,831 69	.....	.....	707,831 69
1914. Amount of disbursements.....	124,463 76	.....	.....	124,463 76
1915. Amount of disbursements.....	339,160 52	.....	.....	339,160 52
1916. Amount of disbursements.....		.....	.....	
<b>Section No. 10. (Under Lexington avenue, from East Seventy-ninth street to East Ninety-third street.)</b>				<b>2,323,596 44</b>
1911. Amount of disbursements.....	8,054 55	.....	.....	8,054 55
1912. Amount of disbursements.....	346,940 77	.....	.....	346,940 77
1913. Amount of disbursements.....	1,022,319 09	.....	.....	1,022,319 09
1914. Amount of disbursements.....	625,613 77	.....	.....	625,613 77
1915. Amount of disbursements.....	170,394 06	.....	.....	170,394 06
1916. Amount of disbursements.....	316,411 06	.....	.....	316,411 06
<b>Section No. 11. (Under Lexington avenue, from East Ninety-third street to East One Hundred and Sixth street.)</b>				<b>2,489,723 90</b>
1911. Amount of disbursements.....	50,586 75	.....	.....	50,586 75
1912. Amount of disbursements.....	796,936 86	.....	.....	796,936 86
1913. Amount of disbursements.....	877,391 25	.....	.....	877,391 25
1914. Amount of disbursements.....	553,427 01	.....	.....	553,427 01
1915. Amount of disbursements.....	185,416 55	.....	.....	185,416 55
1916. Amount of disbursements.....	299,817 36	.....	.....	299,817 36
<b>Section No. 12. (Under Lexington avenue, from East One Hundred and Sixth street to East One Hundred and Eighteenth street.)</b>				<b>2,743,575 78</b>
1911. Amount of disbursements.....	10,879 02	.....	.....	10,879 02
1912. Amount of disbursements.....	1,254,272 07	.....	.....	1,254,272 07
1913. Amount of disbursements.....	767,768 77	.....	.....	767,768 77
1914. Amount of disbursements.....	249,579 96	.....	.....	249,579 96
1915. Amount of disbursements.....	257,373 97	.....	.....	257,373 97
1916. Amount of disbursements.....	99,602 81	.....	.....	99,602 81
				<b>2,639,476 60</b>

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1911-1916 — Continued

## DISBURSEMENTS — Continued

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — Continued

## 5. Lexington Avenue Branch — Concluded

YEAR	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
<b>Section No. 13. (Under Lexington avenue, from East One Hundred and Eighteenth street to East One Hundred and Twenty-ninth street)</b>						
1911. Amount of disbursements.....	\$360,520 26	.....	.....	.....	\$360,520 26	.....
1912. Amount of disbursements.....	942,401 70	.....	.....	.....	942,401 70	.....
1913. Amount of disbursements.....	1,256,967 29	.....	.....	.....	1,256,967 29	.....
1914. Amount of disbursements.....	685,697 24	.....	.....	.....	685,697 24	.....
1915. Amount of disbursements.....	265,638 06	.....	.....	.....	265,638 06	.....
1916. Amount of disbursements.....	.....	.....	.....	.....	.....	\$3,511,274 55
<b>Section No. 14. (From Lexington avenue and East One Hundred and Twenty-ninth street in the Borough of Manhattan, under Lexington avenue and Harlem river to Mott avenue in the Borough of The Bronx.)</b>						
1911. Amount of disbursements.....	12,073 40	.....	.....	.....	\$12,073 40	.....
1912. Amount of disbursements.....	1,196,157 11	.....	.....	.....	1,196,157 11	.....
1913. Amount of disbursements.....	1,985,286 13	.....	.....	.....	1,985,286 13	.....
1914. Amount of disbursements.....	690,917 06	.....	.....	.....	690,917 06	.....
1915. Amount of disbursements.....	27,463 46	.....	.....	.....	27,463 46	.....
1916. Amount of disbursements.....	.....	.....	.....	.....	.....	3,911,897 16
<b>Section No. 15. (Under Mott avenue and East One Hundred and Thirty-eighth street, from East One Hundred and Thirty-fifth street to East One Hundred and Fifty-seventh street and to Alexander avenue.)</b>						
1911. Amount of disbursements.....	.....	.....	.....	.....	.....	.....
1912. Amount of disbursements.....	.....	.....	.....	.....	.....	\$807,824 61

1913. Amount of disbursements.....	1,545,976 41	.....	.....	1,545,976 41
1914. Amount of disbursements.....	1,074,398 11	.....	.....	1,074,398 11
1915. Amount of disbursements.....	188,494 79	.....	.....	188,494 79
1916. Amount of disbursements.....	545,181 49	.....	.....	545,181 49
<hr/>				
REAL ESTATE AND INTEREST THEREIN				
All sections.				
1911. Amount of disbursements.....	.....	.....	.....	.....
1912. Amount of disbursements.....	.....	.....	.....	.....
1913. Amount of disbursements.....	.....	.....	.....	.....
1914. Amount of disbursements.....	.....	.....	.....	.....
1915. Amount of disbursements.....	.....	.....	.....	.....
1916. Amount of disbursements.....	.....	.....	.....	.....
Grand total.....	\$25,585,334 25	\$706,567 74	\$267,250 39	267,250 39
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Total amount of the Lexington Avenue Subway Construction Fund disbursements for the period 1911-1916.....	\$26,559,152 38			

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to the Lexington Avenue Subway Construction Fund account.

† Not included in the Dual System Contracts.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1915-1916

## DISBURSEMENTS — Continued

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — Continued

## 6. Jerome Avenue Branch

YEAR	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the Jerome Avenue Subway during the period of:						
Section No. 1. (Jerome avenue — One Hundred and Fifty-seventh street to One Hundred and Eighty-second street.)						
1914. Amount of disbursements .....	\$9,570 72	\$181,843 74	.....	.....	\$191,414 46	
1915. Amount of disbursements .....	36,886 44	757,842 88	.....	.....	797,729 32	
1916. Amount of disbursements .....	49,537 71	84,392 48	.....	.....	133,930 19	\$1,123,073 97
Section No. 2. (Jerome avenue — One Hundred and Eighty-second street to Woodlawn road.)						
1914. Amount of disbursements .....	9,823 82	186,652 32	.....	.....	196,476 14	
1915. Amount of disbursements .....	38,881 29	738,745 06	.....	.....	777,626 34	
1916. Amount of disbursements .....	46,204 07	97,562 08	.....	.....	143,766 15	1,117,898 63
Railroad Duct Line — Walton Ave. and E. 157th St.						
1916. Amount of disbursements .....	9,148 18	.....	.....	.....	9,148 18	9,148 18
Grand total.....	\$208,052 23	\$2,047,068 55	.....	.....	.....	
Total amount of the Jerome Avenue Rapid Transit Railroad Construction Fund disbursements for the period 1914-1916.....						\$2,250,120 78

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — Continued  
 CONSTRUCTION FUNDS, 1913-1916

DISBURSEMENTS — Continued

SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS — Concluded

7. Southern Boulevard-Westchester Avenue Route

YEAR	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of Southern Boulevard and Westchester Avenue Rapid Transit Railroad during the period:						
Section No. 1. (One Hundred and Thirty-eighth street and Southern boulevard, Alexander avenue to One Hundred and Forty-seventh street.)						
1913. Amount of disbursements .....	\$175,317 41	.....	.....	.....	\$175,317 41	
1914. Amount of disbursements .....	678,789 84	.....	.....	.....	678,789 84	
1915. Amount of disbursements .....	978,522 64	.....	.....	.....	978,522 64	
1916. Amount of disbursements .....	453,329 05	.....	.....	.....	453,329 05	\$2,285,988 94
Section No. 1-A. (One Hundred and Forty-seventh street and Southern boulevard to Bangor street.)						
1914. Amount of disbursements .....	21,761 30	\$413,464 96	.....	.....	\$435,226 26	
1915. Amount of disbursements .....	56,044 16	1,064,839 50	.....	.....	1,120,883 66	
1916. Amount of disbursements .....	32,319 22	614,065 75	.....	.....	646,384 97	2,202,494 89
Section No. 2. (Eastern Boulevard)						
1916. Amount of disbursements .....	48,362 89	12,090 73	.....	.....	\$60,453 62	60,453 62
Grand total.....	\$2,444,446 51	\$2,104,460 94	.....	.....	.....	
Total amount of the Southern Boulevard and Westchester Avenue Rapid Transit Railroad Construction Fund disbursements for the period of 1913-1916.....						\$4,548,907 45

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1914-1916

## DISBURSEMENTS — Continued

## 8. WHITE PLAINS ROAD LINE CONSTRUCTION FUNDS

YEAR.	Work and materials — city funds	Work and materials — I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the White Plains Road Subway during the period of:						
Section No. 1. (Bronx Park East and White Plains road to Burke street.)						
1914. Amount of disbursements.	\$6,111 17	\$116,112 50	.....	.....	\$122,223 67	\$927,751 87
1915. Amount of disbursements.	30,803 78	585,271 73	.....	.....	816,075 51	
1916. Amount of disbursements.	22,156 68	167,296 01	.....	.....	189,452 69	
Section No. 2. (White Plains road, Burke street to Two Hundred and Forty-first street.)						
1914. Amount of disbursements.	22,970 49	436,439 60	.....	.....	\$459,410 09	998,265 47
1915. Amount of disbursements.	22,851 40	434,176 71	.....	.....	457,028 11	
1916. Amount of disbursements.	41,883 78	39,943 49	.....	.....	81,827 27	
Grand total.	\$146,777 30	\$1,779,240 04	.....	.....	.....	.....
Total amount of the White Plains Road Rapid Transit Railroad Construction Fund disbursements for the period 1914-1916.					.....	\$1,928,017 34

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — Continued  
CONSTRUCTION FUNDS, 1913-1916  
DISBURSEMENTS — Continued

STEINWAY LINE CONSTRUCTION FUNDS

9. Astoria, Woodside and Corona Route

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Astoria, Woodside and Corona Rapid Transit Railroad during the period of:						
Section No. 1. (Queens Plaza, Jackson avenue and Second avenue.)						
1914. Amount of disbursements.....	\$378,546 84	.....	.....	.....	\$378,546 84	
1915. Amount of disbursements.....	421,755 87	.....	.....	.....	421,755 87	
1916. Amount of disbursements.....	166,553 65	.....	.....	.....	166,553 65	\$633,719 08
Section No. 2. (Along Second avenue, to Beebe avenue, to Ditmars avenue.)						
1913. Amount of disbursements.....	603,811 43	.....	.....	.....	\$603,811 43	
1914. Amount of disbursements.....	255,886 99	.....	.....	.....	255,886 99	
1915. Amount of disbursements.....	.....	.....	.....	.....	.....	
1916. Amount of disbursements.....	1,379 24	.....	.....	.....	1,379 24	\$61,077 66
Section No. 3. (Queens boulevard and Roosevelt avenue, Van Dam street to Alburdis avenue.)						
1913. Amount of disbursements.....	219,716 65	.....	.....	.....	\$219,716 65	
1914. Amount of disbursements.....	1,763,104 16	.....	.....	.....	1,763,104 16	
1915. Amount of disbursements.....	390,813 19	.....	.....	.....	390,813 19	
1916. Amount of disbursements.....	56,270 96	.....	.....	.....	56,270 96	2,429,904 96
Grand total.....	\$3,924,701 70	.....	.....	.....	.....	
Total amount of the Astoria, Woodside and Corona Rapid Transit Railroad Construction Fund disbursements for the period, 1913-1916.....						\$3,924,701 70

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

† Includes \$7,004.63 for construction of storm drain R. 36-37, See 3.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1914-1916

## DISBURSEMENTS — Continued

## STEINWAY LINE CONSTRUCTION FUNDS — Concluded

## 10. Manhattan and Queens Extensions

YEAR	Work and materials—city funds	Work and materials—L. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the Steinway Tunnel Rapid Transit Railroad during the period of: Steinway Tunnel Extension, (Route No. 26—Madison avenue—Forty-second street, Manhattan to Davis street, Queens.)						
1914. Amount of disbursements.....	\$239,432 49				\$239,432 49	
1915. Amount of disbursements.....	130,452 61				130,452 61	
1916. Amount of disbursements.....	26,049 02				26,049 02	\$395,934 12
Queensboro Bridge Connection. (Route No. 50. Davis street and Ely avenue, Van Alst avenue to Queensboro Bridge Plaza.)						
1914. Amount of disbursements.....	8,325 42	\$158,182 80			\$166,508 22	
1915. Amount of disbursements.....	40,153 97	371,780 88			\$1,934 85	
1916. Amount of disbursements.....	66,275 85				66,275 85	644,718 92
Duct Line, R. 26 and 50.						
1916. Amount of disbursements.....	20,274 62				\$20,274 62	20,274 62
Grand total.....	\$530,993 98	\$529,063 68				
Total amount of the Steinway Tunnel Line (Manhattan and Queens extension) Construction Fund disbursements for the period of 1914-1916.....						\$1,060,927 60

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1915-1916

## DISBURSEMENTS — Continued

## SEVENTH AVENUE-LEXINGTON AVENUE LINE CONSTRUCTION FUNDS

## 11. Lexington Avenue and Steinway Tunnel Diagonal Station Connection

YEAR	Work and materials— city funds	Work and materials— I. R. T. funds	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the Lexington Avenue and Steinway Tunnel diagonal station connection, Routes Nos. 43 and 26, for the period of:						
1915. Amount of disbursements.....	\$608,735 25	\$608,735 32	.....	.....	\$1,217,470 57	
1916. Amount of disbursements.....	471,498 37	446,498 45	.....	.....	917,996 82	\$2,135,467 39
Grand total.....	\$1,080,233 62	\$1,055,233 77	.....	.....	\$2,135,467 39	
Total amount of the Lexington Avenue-Steinway Tunnel Diagonal Station Connection Construction Fund disbursements for the period 1915-1916...						\$2,135,467 39

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office and was not applied to this fund.

**LXXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1914-1916**  
**DISBURSEMENTS — Continued**

**12. EASTERN PARKWAY LINE CONSTRUCTION FUNDS**

ROUTE AND YEAR	Work and materials—city funds	Work and materials— I. R. T. funds	Amount	Total
<b>Total amount of disbursements made in construction of the Eastern Parkway Line, during the period of:</b>				
Contract No. 3. Route No. 12, section No. 1. Flatbush avenue — Atlantic avenue to St. Marks avenue.....	\$35,096 23		\$35,096 23	
1914. Amount of disbursements.....	309,116 18		309,116 18	
1916. Amount of disbursements.....	270,661 19		270,661 19	\$614,873 60
<b>Contract No. 3. Route No. 12, section No. 1-A. Flatbush avenue — St. Marks avenue to St. Johns place:</b>				
1914. Amount of disbursements.....	104,725 63		\$104,725 63	
1916. Amount of disbursements.....	783,429 70		783,429 70	
1916. Amount of disbursements.....	451,587 97		451,587 97	1,309,743 30
<b>Contract No. 3. Route 12, section No. 2. Eastern Parkway, St. Johns place to Nostrand avenue:</b>				
1916. Amount of disbursements.....	10,149 21	\$192,835 14	\$202,984 35	
1916. Amount of disbursements.....	32,121 14	610,301 73	642,422 87	
<b>Contract No. 3. Route 12, section No. 3. Eastern Parkway — Nostrand avenue to Buffalo avenue:</b>				
1916. Amount of disbursements.....	603,369 15	31,756 29	\$635,125 44	
<b>Contract No. 3. Route No. 29, section No. 1. Nostrand avenue — Eastern Parkway to Church avenue:</b>				
1916. Amount of disbursements.....	840 27	15,965 28	16,805 55	
1916. Amount of disbursements.....	24,756 26	470,369 29	495,125 55	
<b>Contract No. 3. Route No. 29, section No. 2. Nostrand avenue — Church avenue to Flatbush avenue:</b>				
1916. Amount of disbursements.....	31,567 11	569,775 77	\$631,342 88	
Total amount, Contract No. 3.....	\$2,627,420 04	\$1,921,003 50	\$4,548,423 54	\$4,548,423 54

## CONSTRUCTION FUNDS, 1915-1916

## DISBURSEMENTS — Continued

## 13a. CONTRACT NO. 3 — STATION FINISH — CONTRIBUTION BY THE CITY OF NEW YORK

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
†Total amount of disbursements made in construction of Station Finish on Contract No. 3, contributed by the City of New York during the period of: Routes Nos. 36 and 37, and 50, Sections 1 and 3, Queensboro Subway Extension, Corona Line and Astoria Line. 1915. Amount of disbursements..... 1916. Amount of disbursements.....	\$12,231 49 267,618 09	..... .....	..... .....	..... .....	\$12,231 49 267,618 09	\$279,849 58
Hunts Point Avenue Station. 1916. Amount of disbursements.....	\$26,266 54	.....	.....	.....	\$26,266 54	26,266 54
Routes 36, 37, Section 2, Astoria, Woodside and Corona Route. 1915. Amount of disbursements..... 1916. Amount of disbursements.....	\$20,866 00 171,032 39	..... .....	..... .....	..... .....	\$20,866 00 171,032 39	191,898 39
Changes at Grand Central Station, R 26. 1916. Amount of disbursements.....	\$7,433 86	.....	.....	.....	\$7,433 86	7,433 86
Route No. 16, Sections 1 and 2, Jerome Avenue Line. 1915. Amount of disbursements..... 1916. Amount of disbursements.....	\$5,861 70 241,048 86	..... .....	..... .....	..... .....	\$5,861 70 241,048 86	246,910 56
Route No. 18, Sections 1 and 2, White Plains Road Line. 1915. Amount of disbursements..... 1916. Amount of disbursements.....	\$6,341 40 191,705 21	..... .....	..... .....	..... .....	\$6,341 40 191,705 21	198,046 61
Grand total.....	\$950,405 54	.....	.....	.....	.....	\$950,405 54
†Total amount of disbursements of Contract No. 3, Station Finish, contributed by the City of New York for the period of 1916.....	.....	.....	.....	.....	.....	\$950,405 54

\* Amount in interest paid on the corporate stock issued was changed to "Interest on City Debt" account, City Comptroller's office, and was not applied to the Lexington Avenue Subway Construction Fund account. † For additional disbursements for station finish, see table 14. Contribution by I. R. T. Co.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1913-1916

13b. CONTRACT NO. 3 — CONTRIBUTION BY THE CITY OF NEW YORK  
(Miscellaneous)

YEAR	Work and materials	Extra work and materials	Real estate	Maintenance	Amount	Total
Total amount of disbursements of Contract No. 3, contributed by the City of New York.						
1913. Amount of disbursements, real estate.	.....	.....	\$179,117 88	.....	\$179,117 88	
1914. Amount of disbursements, real estate.	.....	.....	65,503 89	.....	65,503 89	
1915. Amount of disbursements, real estate.	.....	.....	130,831 42	.....	130,831 42	
1916. Amount of disbursements, real estate.	.....	.....	1,168,093 15	.....	1,168,093 15	
1916. Amount of disbursements, extra work, etc.	.....	\$22,065 06	.....	.....	22,065 06	
1916. Amount of disbursements, track materials.	\$1,349,444 28	.....	.....	.....	1,349,444 28	
1916. Amount of disbursements, track installation.	212,570 52	.....	.....	.....	212,570 52	
1916. Amount of disbursements, maintenance.	.....	.....	.....	\$77 71	77 71	
	\$1,562,014 80	\$22,065 06	\$1,543,546 34	\$77 71	\$3,127,703 91	
Total amount of disbursements, Contract No. 3, Dual System Rapid Transit R. R., contributed by the City of New York for the period of 1913-1916.						\$3,127,703 91

N. B.— Amount of interest paid on the Corporate Stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — *Continued*  
CONSTRUCTION FUNDS, 1913-1916

DISBURSEMENTS — *Continued*

14. CONTRACT NO. 3 — DUAL SYSTEM RAPID TRANSIT RAILROADS — CONTRIBUTIONS BY THE INTERBOROUGH RAPID TRANSIT COMPANY

YEAR	Work and materials	Extra work and materials	Real estate	Amount	Total
Total amount of disbursements of Contract No. 3 contributed by the Interborough Rapid Transit Company during the period of:					
1913. Amount of disbursements, real estate .....	.....	.....	\$130,858 44	\$130,858 44	
1914. Amount of disbursements, real estate .....	.....	.....	261,774 93	261,774 93	
1915. Amount of disbursements, real estate .....	.....	.....	1,017,052 95	1,017,052 95	
1916. Amount of disbursements, real estate .....	.....	.....	459,459 21	459,459 21	\$1,869,145 53
<hr/>					
Station Finish, R5, Sec. 7 to 11.	.....	.....	.....	\$94,984 07	94,984 07
1916. Amount of disbursements .....	.....	.....	.....	.....	
<hr/>					
One Hundred and Eightieth St. Yard.	.....	.....	.....	\$19,722 61	19,722 61
1916. Amount of disbursements .....	.....	.....	.....	.....	
Grand total .....	.....	.....	\$1,869,145 53	\$114,706 63	
<hr/>					
Total amount of disbursements of Contract No. 3, Dual System Rapid Transit Railroad, contributed by the Interborough Rapid Transit Company for the period of 1913-1916 .....					\$1,983,852 21

LXXXV. RECAPITULATION — Continued  
CONSTRUCTION FUNDS, 1911-1916

DISBURSEMENTS — Continued

BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS

15. Broadway Route

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Broadway Subway during the period of:						
Section No. 1. (Trinity place and Church street, Morris street to Dey street.)						
1912. Amount of disbursements.....	\$371,582 80	.....	.....	.....	\$371,582 80	\$1,385,772 56
1913. Amount of disbursements.....	769,742 68	.....	.....	.....	769,742 68	
1914. Amount of disbursements.....	208,381 57	.....	.....	.....	208,381 57	
1915. Amount of disbursements.....	36,065 51	.....	.....	.....	36,065 51	
1916. Amount of disbursements.....						
Section No. 1-A. (Church to Vesey streets, Broadway, Dey street to Park place.)						
1912. Amount of disbursements.....	230,486 78	.....	.....	.....	\$230,486 78	1,263,178 49
1913. Amount of disbursements.....	750,828 51	.....	.....	.....	750,828 51	
1914. Amount of disbursements.....	249,046 23	.....	.....	.....	249,046 23	
1915. Amount of disbursements.....	22,811 97	.....	.....	.....	22,811 97	
1916. Amount of disbursements.....						
Section No. 2. (Under Broadway, from Park place to Walker street.)						
1912. Amount of disbursements.....	607,675 93				\$607,675 93	2,694,418 55
1913. Amount of disbursements.....	940,078 76	\$13,076 55			953,154 31	
1914. Amount of disbursements.....	488,700 13	49,788 05			538,488 18	
1915. Amount of disbursements.....	136,732 45	a 8,905 80			145,638 25	
1916. Amount of disbursements.....	396,631 28	b 8,835 66			405,466 94	

Section No. 2-A. (Under Broadway, from Walker street to Howard street, also a portion of the Canal street route, under the Broadway route at Canal street and Broadway.)

1912. Amount of disbursements.....	80,826 47	.....	.....	\$50,826 47
1913. Amount of disbursements.....	339,306 44	.....	.....	398,570 37
1914. Amount of disbursements.....	331,141 31	a 9,263 93	.....	470,153 28
1915. Amount of disbursements.....	84,033 76	139,011 97	.....	85,596 06
1916. Amount of disbursements.....	53,831 53	a 1,562 30	.....	85,707 82
		31,916 29	.....	
				1,090,944 00

Section No. 3. (Under Broadway, from Howard street to Bleeker street.)

1912. Amount of disbursements.....	678,464 10	.....	.....	\$678,464 10
1913. Amount of disbursements.....	918,359 97	.....	.....	1,080,900 97
1914. Amount of disbursements.....	190,587 24	a 142,541 00	.....	373,364 94
1915. Amount of disbursements.....	73,960 56	a 181,777 70	.....	114,847 25
1916. Amount of disbursements.....	331,421 08	a 40,886 69	.....	378,747 48
		47,326 40	.....	
				2,605,324 74

Section No. 4. (Bleeker street to Union square.)

1912. Amount of disbursements.....	177,724 03	.....	.....	\$177,724 03
1913. Amount of disbursements.....	1,551,106 18	.....	.....	1,551,106 18
1914. Amount of disbursements.....	593,148 16	.....	.....	593,148 16
1915. Amount of disbursements.....	259,325 82	.....	.....	259,325 82
1916. Amount of disbursements.....	\$10,888,061 25	.....	.....	.....
Grand total.....	\$652,886 28	.....	.....	.....

Total amount of the Broadway Construction Fund disbursements for the period 1911-1916.....\$11,540,937 53

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

a Total amount of the disbursements on account of the physical connection at Canal street and crossover at Spring street and Canal street, to December 31,  
 1914 \$516,888 80  
 1915 51,414 79  
 1916 85,102 69

\$652,886 28

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1913-1916

## DISBURSEMENTS — Continued

## BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued

## 16. Broadway-Fifty-ninth Street Route

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Broadway-Fifty-ninth Street Subway during the period of:						
Section No. 1. (Broadway, Union square to Twenty-sixth street.)						
1913. Amount of disbursements.....	\$71,605 62	.....	.....	.....	\$71,605 62	
1914. Amount of disbursements.....	1,053,522 12	.....	.....	.....	1,053,522 12	
1915. Amount of disbursements.....	697,014 52	.....	.....	.....	697,014 52	
1916. Amount of disbursements.....	195,550 99	.....	.....	.....	195,550 99	\$2,017,693 25
Section No. 2. (Broadway, Twenty-sixth street to Thirty-eighth street.)						
1914. Amount of disbursements.....	69,955 13	.....	.....	.....	\$69,955 13	
1915. Amount of disbursements.....	1,106,642 24	.....	.....	.....	1,106,642 24	
1916. Amount of disbursements.....	806,340 16	.....	.....	.....	806,340 16	1,982,937 53
Section No. 3. (Broadway and Seventh avenue, Thirty-eighth street to Fifty-first street.)						
1915. Amount of disbursements.....	76,745 02	.....	.....	.....	\$76,745 02	
1916. Amount of disbursements.....	1,149,538 90	.....	.....	.....	1,149,538 90	1,226,283 92
Section No. 4. (Seventh avenue, Fifty-first street to Fifty-ninth street.)						
1915. Amount of disbursements.....	104,748 48	.....	.....	.....	\$104,748 48	
1916. Amount of disbursements.....	632,522 64	.....	.....	.....	632,522 64	787,271 12

Section No. 5. (Fifty-ninth and Sixtieth streets, Seventh avenue to Second avenue.)			
1914. Amount of disbursements.	42,789 24	.....	842,789 24
1915. Amount of disbursements.	343,060 24	.....	343,060 24
1916. Amount of disbursements.	587,801 22	.....	587,801 22
Grand total.....	\$6,942,836 52	.....	978,680 70
Total amount of Broadway-Fifty-ninth Street Subway Construction Fund disbursements for the period of 1913-1916.....			
			\$6,942,836 52

\* Amount in interest paid on the Corporate Stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — Continued  
CONSTRUCTION FUNDS, 1907-1916  
DISBURSEMENTS — Continued  
17. Brooklyn-Manhattan Loop Lines

BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued

YEAR	Work and materials	Pipe galleries	Extra work and materials	Extra pipe galleries	Real estate	Maintenance	Interest on corporate stock	Amount	Total
<b>Total amount of disbursements in the construction of the Brooklyn-Manhattan Loop Lines (Manhattan Sections) during the period of:</b>									
<b>Section 9-O-1 (Centre street from Pearl street to Park row)</b>									
1917. Amount of disbursements.....	\$67,912 20							\$67,912 20	
1908. Amount of disbursements.....	189,653 44						*	120,653 44	
1909. Amount of disbursements.....			\$91,176 85				*	91,176 85	
1910. Amount of disbursements.....			88,998 71				*	88,998 71	
1911. Amount of disbursements.....	268,524 30		250,622 62				*	519,146 92	
1912. Amount of disbursements.....	498,706 23		22,800 20				*	521,506 43	
1913. Amount of disbursements.....	266,707 61		1,929 63				*	268,637 24	
1914. Amount of disbursements.....	142,040 12		31,432 13				*	173,472 25	
1915. Amount of disbursements.....			150 00					150 00	
1916. Amount of disbursements.....									\$1,863,935 14
<b>Section 9-O-2 (Centre street from Pearl street to Canal street.)</b>									
1907. Amount of disbursements.....	260,530 88						*	\$260,530 88	
1908. Amount of disbursements.....	1,214,552 29						*	1,214,552 29	
1909. Amount of disbursements.....	788,968 74		27,181 70				*	816,150 44	
1910. Amount of disbursements.....	49,233 24		337,472 61				*	386,705 85	
1911. Amount of disbursements.....	230,000 00						*	230,000 00	
1912. Amount of disbursements.....							*		
1913. Amount of disbursements.....	100,936 50		13,585 23				*	114,521 73	
1914. Amount of disbursements.....									
1915. Amount of disbursements.....									
1916. Amount of disbursements.....									3,022,464 19
<b>Section 9-O-3 (Centre street from Canal street to Fourth street.)</b>									
1907. Amount of disbursements.....	132,580 05						*	\$132,580 05	
1908. Amount of disbursements.....	890,316 04						*	890,316 04	

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1909.	Amount of disbursements.	545 51 12	95 446 77	337 577 47	337 577 47	2 030, 733 61
1910.	Amount of disbursements.	230 562 12				
1911.	Amount of disbursements.					
1912.	Amount of disbursements.		62 561 08		62 561 08	
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					
1915.	Amount of disbursements.					
1916.	Amount of disbursements.					
<b>Section 9-0-4 (new extension of Delancy street from Centre street to the Bowery)</b>						
1907.	Amount of disbursements.	37 577 47			37 577 47	
1908.	Amount of disbursements.	386 142 54			386 142 54	
1909.	Amount of disbursements.	738 143 92	\$10 454 07		748 598 00	
1910.	Amount of disbursements.	181 306 96	9 660 66	92 009 62	283 157 24	
1911.	Amount of disbursements.	175 041 10	5 164 39	43 813 03	237 274 63	
1912.	Amount of disbursements.			19 104 61	19 104 61	
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					
1915.	Amount of disbursements.					
1916.	Amount of disbursements.					
<b>Section 9-0-5 (Delancy street between the Bowery and Norfolk street)</b>						
1907.	Amount of disbursements.	89 558 09			89 558 09	
1908.	Amount of disbursements.	684 687 79	12 048 06		696 735 85	
1909.	Amount of disbursements.	153 344 77	39 867 22		193 241 99	
1910.	Amount of disbursements.		231 66	534 08	766 21	
1911.	Amount of disbursements.	153 272 19	13 245 14	19 143 98	192 896 94	
1912.	Amount of disbursements.					
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					
1915.	Amount of disbursements.					
1916.	Amount of disbursements.					
<b>REAL ESTATE AND INTEREST THEREIN</b>						
<b>Section 9-0-1, 9-0-2, 9-0-3, 9-0-4, 9-0-5 (entire area)</b>						
1907.	Amount of disbursements.					
1908.	Amount of disbursements.					
1909.	Amount of disbursements.					
1910.	Amount of disbursements.					
1911.	Amount of disbursements.					
1912.	Amount of disbursements.					
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					
1915.	Amount of disbursements.					
1916.	Amount of disbursements.					
<b>Section 9-0-1, 9-0-2, 9-0-3, 9-0-4, 9-0-5 (entire area)</b>						
1907.	Amount of disbursements.					
1908.	Amount of disbursements.					
1909.	Amount of disbursements.					
1910.	Amount of disbursements.					
1911.	Amount of disbursements.					
1912.	Amount of disbursements.					
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					
1915.	Amount of disbursements.					
1916.	Amount of disbursements.					
<b>Section 9-0-1, 9-0-2, 9-0-3, 9-0-4, 9-0-5 (entire area)</b>						
1907.	Amount of disbursements.					
1908.	Amount of disbursements.					
1909.	Amount of disbursements.					
1910.	Amount of disbursements.					
1911.	Amount of disbursements.					
1912.	Amount of disbursements.					
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					
1915.	Amount of disbursements.					
1916.	Amount of disbursements.					
<b>Section 9-0-1, 9-0-2, 9-0-3, 9-0-4, 9-0-5 (entire area)</b>						
1907.	Amount of disbursements.					
1908.	Amount of disbursements.					
1909.	Amount of disbursements.					
1910.	Amount of disbursements.					
1911.	Amount of disbursements.					
1912.	Amount of disbursements.					
1913.	Amount of disbursements.					
1914.	Amount of disbursements.					

**REAL ESTATE AND INTEREST THEREIN**  
**Sections 9-0-1, 9-0-2, 9-0-3, 9-0-4,**  
**9-0-5 (entire route).**

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**XXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1907-1916**  
 DISBURSEMENTS — Continued  
**BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued**  
**17. Brooklyn-Manhattan Loop Lines — Concluded**

YEAR	Work and materials	Pipe galleries	Extra work and materials	Extra pipe galleries	Real estate	Maintenance	Interest on corporate stock	Amount	Total
MAINTENANCE									
Sections 9-O-1, 9-O-2, 9-O-3, 9-O-4, 9-O-5 (entire route).									
*1907. Amount of disbursements.									
1908. Amount of disbursements.									
1909. Amount of disbursements.									
1910. Amount of disbursements.									
1911. Amount of disbursements.									
1912. Amount of disbursements.									
1913. Amount of disbursements.									
1914. Amount of disbursements.									
1915. Amount of disbursements.									
1916. Amount of disbursements.									
Grand total.	\$6,476,329 53	\$90,701 23	\$1,221,716 91	\$20,490 87	\$3,130,353 78	\$1,865 47*			\$4,865 47
Total amount of the Brooklyn-Manhattan Loop Lines (Manhattan Sections) Construction Fund disbursements for the period 1907-1916.									\$12,946,457 81

\* Amount in interest paid on the Corporate Stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to the Brooklyn-Manhattan Loop Lines (Manhattan Sections) Construction Fund account.

† For the six months ended December 31, 1907.

LXXXV. RECAPITULATION — *Continued*  
 CONSTRUCTION FUNDS, 1914-1916  
 DISBURSEMENTS — *Continued*  
 BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — *Continued*  
 18. *Whitehall-Montague Street Route*

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock	Amount	Total
Total amount of disbursements made in the construction of the Whitehall-Montague Street Subway during the period of:						
Section No. 1. (Whitehall street-Battery place to South street.)						
1914. Amount of disbursements.....	\$37,713 44	.....	.....	.....	\$37,713 44	
1915. Amount of disbursements.....	515,064 86	.....	.....	.....	515,064 86	
1916. Amount of disbursements.....	476,062 04	.....	.....	.....	476,062 04	\$1,018,780 34
Section No. 2. (Whitehall and South streets, Manhattan, to Montague street, Brooklyn.)						
1915. Amount of disbursements.....	\$1,423,353 64	.....	.....	.....	\$1,423,353 64	
1916. Amount of disbursements.....	2,452,561 78	.....	.....	.....	2,452,561 78	3,875,915 42
Section No. 3. (Montague street, Clinton street to Flatbush avenue extended.)						
1915. Amount of disbursements.....	\$410,122 93	.....	.....	.....	\$410,122 93	
1916. Amount of disbursements.....	1,479,109 14	.....	.....	.....	1,479,109 14	1,889,232 07
Grand total.....	\$6,783,957 83	.....	.....	.....	.....	
Total amount of the Whitehall-Montague Street Rapid Transit Railroad Construction Fund disbursements for the period of 1915-1916.....						\$6,783,957 83

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.  
 † Contract No. 3 portion, part of Route 48, 1915, \$143,543.01; 1916, \$517,688.19; total, \$661,231.20.

**LXXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1914-1916**

*DISBURSEMENTS — Continued*

**BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued**

**19. Canal Street Route**

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Canal Street Subway during the period of: Section No. 2. (Canal street, Broadway to Bowery.)						
1914. Amount of disbursements.....	\$122,615 57	.....	.....	.....	\$122,615 57	
1915. Amount of disbursements.....	713,376 28	.....	.....	.....	713,376 28	
1916. Amount of disbursements.....	666,901 82	.....	.....	.....	666,901 82	
Grand total.....	\$1,502,893 67	.....	.....	.....	.....	
Total amount of the Canal Street Subway Rapid Transit Railroad Construction Fund disbursements for the period of 1916.....						\$1,502,893 67

\* Amount in interest on the corporate stock issued was charged to "Interest on City Debts" account, City Comptroller's office, and was not applied to this fund.

**LXXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1909-1916**  
**DISBURSEMENTS — Continued**  
**BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued**  
**20. Brooklyn-Fourth Avenue Subway**

YEAR	Work and materials	Pipe galleries	Extra work and materials	Real estate	Maintenance	Amount	Total
Total amount of disbursements made in the construction of the Brooklyn (Fourth Avenue) Subway during the period of:							
Section M-B-Ex. 1. (Flatbush avenue extension from Nassau street to Willoughby street, Borough of Brooklyn, New York City.)							
1908. Amount of disbursements.....	\$252,774 33	\$4,683 35	.....	.....	.....	\$257,456 68	.....
1910. Amount of disbursements.....	482,442 29	.....	.....	.....	.....	486,588 64	.....
1911. Amount of disbursements.....	230,534 90	.....	\$4,146 35	.....	.....	230,534 90	.....
1912. Amount of disbursements.....	.....	.....	.....	.....	.....	163,163 98	.....
1913. Amount of disbursements.....	74,725 03	29,870 53	58,568 42	.....	.....	.....	.....
1914. Amount of disbursements.....	.....	.....	.....	.....	.....	.....	.....
1916. Amount of disbursements.....	.....	.....	.....	.....	.....	.....	\$1,117,744 20
Section 9-C-1. (Flatbush avenue extension and Fulton street from Willoughby street to Ashland place, Borough of Brooklyn, New York City.)							
1908. Amount of disbursements.....	617,408 55	.....	10,350 00	.....	.....	\$627,758 55	.....
1910. Amount of disbursements.....	1,212,472 14	.....	2,160 00	.....	.....	1,214,632 14	.....
1911. Amount of disbursements.....	321,189 10	.....	74,790 98	.....	.....	995,986 76	.....
1912. Amount of disbursements.....	320,573 80	.....	3,546 92	.....	.....	324,120 72	.....
1913. Amount of disbursements.....	364,373 41	8,506 52	23,156 87	.....	.....	395,037 80	.....
1914. Amount of disbursements.....	83,392 98	.....	.....	.....	.....	83,392 98	.....
1916. Amount of disbursements.....	32,703 64	.....	.....	.....	.....	32,703 64	.....
1916. Amount of disbursements.....	.....	.....	.....	.....	.....	.....	3,673,632 59

LXXXV. RECAPITULATION — Continued  
CONSTRUCTION FUNDS, 1909-1916  
DISBURSEMENTS — Continued  
BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued  
20. Brooklyn-Fourth Avenue Subway — Continued

YEAR	Work and materials	Pipe galleries	Extra work and materials	Real estate	Main-tenance	Amount	Total
Section 11-E-1 and 11-A-1. (Ashland place and Fourth avenue from Fulton street to Sackett street, Borough of Brooklyn, New York City.)							
1909. Amount of disbursements.....	\$458,138 77	\$31,370 03	.....	.....	.....	\$479,508 80	
1910. Amount of disbursements.....	1,504,696 48	.....	.....	.....	.....	1,504,696 48	
1911. Amount of disbursements.....	915,251 41	.....	\$30,510 00	.....	.....	945,761 41	
1912. Amount of disbursements.....	161,204 49	.....	.....	.....	.....	161,204 49	
*1913. Amount of disbursements.....	352,800 35	29,097 73	14,512 52	.....	.....	396,410 60	
1915. Amount of disbursements.....	.....	.....	15,177 44	.....	.....	15,177 44	\$3,502,759 23
Section 11-A-2. (Fourth avenue from Sackett street to Tenth street, Borough of Brooklyn, New York City.)							
1909. Amount of disbursements.....	653,958 36	.....	.....	.....	.....	\$653,958 36	
1910. Amount of disbursements.....	1,056,172 89	.....	.....	.....	.....	1,056,172 89	
1911. Amount of disbursements.....	292,269 01	.....	486 00	.....	.....	292,755 01	
1912. Amount of disbursements.....	222,678 04	44,975 63	25,995 00	.....	.....	293,348 67	
1914. Amount of disbursements.....	.....	.....	.....	.....	.....	.....	
1915. Amount of disbursements.....	.....	.....	.....	.....	.....	.....	
Section 11-A-3. (Fourth avenue from Tenth street to Twenty-seventh street, Borough of Brooklyn, New York City.)							
1909. Amount of disbursements.....	705,462 97	27,956 59	.....	.....	.....	\$733,419 56	
1910. Amount of disbursements.....	820,293 27	.....	.....	.....	.....	820,293 27	
1912. Amount of disbursements.....	357,371 90	131,977 58	.....	.....	.....	489,349 48	
							2,296,294 93

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1913. Amount of disbursements.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.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**XXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1909-1916**

**DISBURSEMENTS — Continued**

**BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued**

**20. Brooklyn-Fourth Avenue Subway — Concluded**

YEAR	Work and materials	Pipe galleries	Extra work and materials	Real estate	Maintenance	Amount	Totals
<b>MAINTENANCE</b>							
1909. Amount of disbursements.....							
1910. Amount of disbursements.....							
1911. Amount of disbursements.....							
1912. Amount of disbursements.....					\$1,113 49	\$1,113 49	
1913. Amount of disbursements.....					3,804 02	3,804 02	
1914. Amount of disbursements.....							
1915. Amount of disbursements.....							
1916. Amount of disbursements.....							
<b>Grand total.....</b>	<b>\$18,528,445 96</b>	<b>\$310,045 33</b>	<b>\$233,053 98</b>	<b>\$400,055 87</b>	<b>\$4,917 51</b>		<b>\$4,917 51</b>
<b>Total amount of the Brooklyn (Fourth Avenue) Subway Construction Fund Disbursements for the period 1909-1916.....</b>							<b>\$19,506,518 35</b>

**NOTE.**— Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to the Brooklyn (Fourth Avenue) Subway Construction Fund account.

\* 1914 disbursements, as printed in report for 1914, reduced in final payments as follows: 11-E-A-1... \$56 91  
 9-C-1..... 28 47

**\$85 88**

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1914-1916

## DISBURSEMENTS — Continued

## 21. Flatbush Avenue Line

ROUTE AND YEAR	Work and materials, City funds	Total
Contract No. 4, Route No. 12, Section No. 1. Flatbush avenue — Atlantic avenue to St. Marks avenue.		
1914. Amount of disbursements .....	\$35,096 24	
1915. Amount of disbursements .....	309,116 15	
1916. Amount of disbursements .....	270,861 20	\$614,873 59
Contract No. 4, Route No. 12, Section No. 1-A. Flatbush avenue — St. Marks avenue to St. Johns place.		
1914. Amount of disbursements .....	\$52,362 82	
1915. Amount of disbursements .....	376,714 84	
1916. Amount of disbursements .....	225,793 93	654,871 59
Contract No. 4, Route No. 12, Section No. 2. Flatbush avenue — St. Johns place to Ocean avenue .....	\$91,605 01	91,605 01
Contract No. 4, Route No. 12, Section No. 2-B. Flatbush avenue — Hanson place to Atlantic avenue .....	3,192 18	3,192 18
Total amount, Contract No. 4 .....	\$1,364,542 37	\$1,364,542 37

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1914-1916

## DISBURSEMENTS — Continued

## BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS — Continued

## 22. New Utrecht Avenue Elevated Line

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the New Utrecht Avenue Elevated Line during the period of:						
Section No. 2. (Tenth avenue-Thirty-ninth street, New Utrecht avenue, Eighty-sixth street, Stillwell avenue to Coney Island.)						
1914. Amount of disbursements.....	\$444,662 23	.....	.....	.....	\$444,662 20	
1915. Amount of disbursements.....	1,002,862 15	.....	.....	.....	1,002,862 15	
1916. Amount of disbursements.....	234,515 68	.....	.....	.....	234,515 68	
Grand total.....	\$1,682,040 03	.....	.....	.....	.....	\$1,682,040 03
Total amount of the New Utrecht Avenue Elevated Rapid Transit Railroad Construction Fund disbursements for the period of 1914-1916.....					.....	\$1,682,040 03

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — Continued  
 CONSTRUCTION FUNDS, 1915-1916  
 DISBURSEMENTS — Continued  
 CULVER LINE CONSTRUCTION FUNDS  
 23 Gravesend Avenue Elevated Line

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in construction of the New Utrecht Avenue Elevated Line during the period of: Section No. 1. (Gravesend Avenue-Thirtieth street, to Bay Parkway.)						
1915. Amount of disbursements .....	\$7,413 70	.....	.....	.....	\$7,413 70	
1916. Amount of disbursements .....	331,628 37	.....	.....	.....	331,628 37	\$339,042 07
Section No. 2. Gravesend avenue and Shell road, Twenty-second avenue to Avenue X.)						
1915. Amount of disbursements .....	34,949 96	.....	.....	.....	\$34,949 96	
1916. Amount of disbursements .....	425,829 70	.....	.....	.....	425,829 70	460,779 66
Grand total.....	\$799,821 73	.....	.....	.....	.....	
Total amount of the Gravesend Avenue Elevated Rapid Transit Railroad Construction Fund disbursements, for the period of 1915.....						\$799,821 73

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1916

## DISBURSEMENTS

## BROADWAY-FOURTH AVENUE LINE CONSTRUCTION FUNDS

## 24. Queens

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Route 61, Blackwell's Island Tunnel. Total amount of disbursements made in the construction of the Blackwell's Island Tunnel during the period of: 1916. Amount of disbursements.....	\$120,638 70	.....	.....	.....	\$120,638 70	\$120,638 70
Routes 36, 37 and 50. Total amount of disbursements made in the construction of the Queens, Astoria, Woodside and Corona Route. Contract No. 4 portion.....	503,235 84	.....	.....	.....	\$503,235 84	503,235 84
1916. Amount of the disbursements.....	503,235 84	.....	.....	.....	.....	503,235 84
Grand total.....	\$623,874 54	.....	.....	.....	.....	\$623,874 54
Total amount of disbursements from Broadway-Fourth Avenue Line Construction Funds, Queens Lines, for the period 1916.....	.....	.....	.....	.....	.....	\$623,874 54

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

LXXXV. RECAPITULATION — Continued  
CONSTRUCTION FUNDS, 1916

DISBURSEMENTS

25. Fourteenth Street — Eastern Line

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock*	Amount	Total
Total amount of disbursements made in the construction of the Fourteenth Street-Eastern Line during the period of:						
1916. Amount of disbursements.....	\$466,777 25	.....	.....	.....	\$466,777 25	\$466,777 25
Grand total.....	\$466,777 25	.....	.....	.....	\$466,777 25	\$466,777 25
Total amount of the Fourteenth Street-Eastern Line Construction Funds for the period 1916.....						

\* Amount in interest paid on the corporate stock issued was charged to "Interest on City Debt" account, City Comptroller's office, and was not applied to this fund.

**LXXXV. RECAPITULATION — Continued**  
**CONSTRUCTION FUNDS, 1915-1916 — Concluded**  
**DISBURSEMENTS — Continued**

**STATION FINISH CONSTRUCTION FUNDS — Continued**

**28. Contract No. 4, Dual System, Contribution by the City of New York**

YEAR	Work and materials	Extra work and materials	Real estate	Interest on corporate stock <sup>a</sup>	Amount	Total
<i>Completion of Construction and Station Finish, Fourth Avenue Line</i>						
Total amount of disbursements made in completion of construction and station finish for the Fourth Avenue Line of the Broadway-Fourth Avenue Rapid Transit Railroad. Hanson place to Butler street, for the period of:						
1915. Amount of disbursements .....	\$31,107 92	.....	.....	.....	\$31,107 92	
1916. Amount of disbursements .....	13,377 17	.....	.....	.....	13,377 17	\$44,485 09
<i>Station Finish, Fourth Avenue Line</i>						
Total amount of disbursements made in construction of Station Finish for the Fourth Avenue Line of the Broadway-Fourth Avenue Rapid Transit Railroad, of the six stations from Forty-third street to Eighty-sixth street, Borough of Brooklyn, for the period of:						
Route 11-B, Sections 1 and 2 .....	209,088 54	.....	.....	.....	\$209,088 54	
1915. Amount of disbursements .....	35,765 32	.....	.....	.....	35,765 32	244,853 86
1916. Amount of disbursements .....						
<i>Station Finish — New Utrecht Avenue, Route 39</i>						
1916. Amount of disbursements .....	219,984 82	.....	.....	.....	\$219,984 82	219,984 82
<i>Station Finish, Broadway, Route 5, Sections 1 to 4</i>						
1916. Amount of disbursements .....	136,109 50	.....	.....	.....	136,109 50	136,109 50

<i>Station Finish, Routes 4 and 39, and Route 20, Canal Street and Broadway Routes</i>									
1916. Amount of disbursements.....	2,103 45	.....	.....	.....	.....	.....	2,103 45	.....	2,103 45
<i>Station Finish, Routes 36, 37, and 50, Queens Lines</i>									
1916. Amount of disbursements.....	30,989 67	.....	.....	.....	.....	.....	30,989 67	.....	30,989 67
<i>Supply of Varnish for Station Finish</i>									
1916. Amount of disbursements.....	755 00	.....	.....	.....	.....	.....	755 00	.....	755 00
<i>Changes at Chambers Street Station</i>									
1916. Amount of disbursements.....	1,300 00	.....	.....	.....	.....	.....	1,300 00	.....	1,300 00
<i>Reconstruction of Platform Edges, Fourth Avenue Line</i>									
Total amount of disbursements made in the reconstruction of platform edges for the Fourth Avenue Line at the Broadway-Fourth Avenue Rapid Transit Railroad, Manhattan Bridge to Twenty-sixth street, for the period of:									
1916. Amount of disbursements.....	3,785 45	.....	.....	.....	.....	.....	3,785 45	.....	3,785 45
Grand total.....	\$684,326 84	.....	.....	.....	.....	.....	.....	.....	.....
Total amount of disbursements for station finish and completion of station construction under Contract No. 4, from city funds for the period 1916-1916.....									\$684,326 84

## LXXXV. RECAPITULATION — Continued

## CONSTRUCTION FUNDS, 1914-1916

## DISBURSEMENTS — Continued

## 27. Contract No. 4, Track Materials and Track Installation and Real Estate Construction Funds

YEAR	Work and materials	Extra work and materials	Real estate	Amount	Total
<i>Track Materials</i>					
Total amount of disbursements made in the purchase of track materials.					
1914. Amount of disbursements.....	\$325,280 84	.....	.....	\$325,280 84	
1915. Amount of disbursements.....	291,572 21	.....	.....	291,572 21	
1916. Amount of disbursements.....	278,367 00	.....	.....	278,367 00	\$895,220 05
<i>Track Installation, Brooklyn, Fourth Avenue Subway</i>					
Total amount of disbursements for installation of tracks.					
1914. Amount of disbursements.....	28,200 15	.....	.....	\$28,200 15	
1915. Amount of disbursements.....	162,863 44	.....	.....	162,863 44	
1916. Amount of disbursements.....	25,833 02	.....	.....	25,833 02	216,896 61
<i>Shifting Tracks, Manhattan Bridge</i>					
1915. Amount of disbursements.....	1,300 00	.....	.....	\$1,300 00	1,300 00
<i>New Utrecht Avenue, Row's 59</i>					
1915. Amount of disbursements.....	3,828 72	.....	.....	3,828 72	
1916. Amount of disbursements.....	53,264 49	.....	.....	53,264 49	57,093 21
<i>Broadway-Fourth Avenue Line, Routes 4 and 36, 5, 20 and 33</i>					
1916. Amount of disbursements.....	13,851 65	.....	.....	\$13,851 65	13,851 65

<i>Queens Lines, Routes 36 and 37</i>					
1916. Amount of disbursements.....	4,129 60	.....	.....	4,129 60	4,129 60
<i>Real Estate</i>					
Total amount of disbursements on account of Contract No. 4, real estate, city funds during period:					
1913. Amount of disbursements.....	.....	.....	\$256,643 86	256,643 86	
1914. Amount of disbursements.....	.....	.....	812,735 63	812,735 63	
1915. Amount of disbursements.....	.....	.....	555,095 56	555,095 56	
1916. Amount of disbursements.....	.....	.....	901,419 04	901,419 04	
Grand total.....	\$1,188,491 12	.....	\$2,525,894 09	.....	2,525,894 09
					\$3,714,385 21

LXXXV. RECAPITULATION — *Concluded*  
CONSTRUCTION FUNDS, 1913-1916  
DISBURSEMENTS — *Concluded*

28. CONTRACT NO. 4 — DUAL SYSTEM RAPID TRANSIT RAILROADS — CONTRIBUTION BY THE NEW YORK MUNICIPAL RAILWAY CORPORATION

YEAR	Work and materials	Extra work and materials	Real estate	Amount	Total
Total amount of disbursements of Contract No. 4, contributed by New York Municipal Railway Corporation during the period of:					
1913. Amount of disbursements.....	.....	.....	\$4,114,918 82	\$4,114,918 82	
1914. Amount of disbursements.....	.....	.....	258,575 91	258,575 91	
1915. Amount of disbursements.....	.....	.....	43,105 22	43,105 22	
1916. Amount of disbursements.....	.....	.....	40 00	40 00	
Grand total.....	.....	.....	\$4,416,639 95	\$4,416,639 95	
Total amount of disbursements of Contract No. 4, Dual System of Rapid Transit Railroads, contributed by the New York Municipal Railway Corporation for the period of 1913-1916.....					\$4,416,639 95

**LXXXVI RECAPITULATION**  
**GENERAL FUND OF THE STATE OF NEW YORK**  
**TRUST FUNDS ACCOUNT, 1907-1916**  
**a. FUNDS COLLECTED AND PAID INTO THE STATE TREASURY**

	Forfeiture penalties account	Total
Total amount collected by the Public Service Commission for the First District and paid into the State Treasury to the credit of the General Fund during the period of:		
1907. Amount collected.....	.....	.....
1908. Amount collected.....	.....	.....
1909. Amount collected.....	.....	.....
1910. Amount collected.....	.....	.....
1911. Amount collected.....	.....	.....
1912. Amount collected.....	.....	.....
1913. Amount collected.....	.....	.....
1914. Amount collected.....	.....	.....
1915. Amount collected.....	.....	.....
1916. Amount collected.....	.....	.....
<b>Total.....</b>	<b>\$37 50</b>	<b>\$37 50</b>
	<b>197 02</b>	<b>197 02</b>
	<b>75 00</b>	<b>75 00</b>
	<b>\$309 52</b>	<b>\$309 52</b>
Total amount paid into the State Treasury, 1907-1916.....	.....	<b>\$309 52</b>

**LXXXVI RECAPITULATION — Concluded**  
**GENERAL FUND OF THE CITY OF NEW YORK**  
**TRUST FUNDS ACCOUNT, 1907-1916**  
**\*b. FUNDS COLLECTED AND PAID INTO THE CITY TREASURY**

	Miscellaneous supplies account	Gas meter account	Electric meter account	Official fees account	Total
Total amount collected by the Public Service Commission for the First District, and paid into the City Treasury to the credit of the General Fund during the period of:					
1907. Amount collected .....	\$497 00	\$494 90	.....	.....	\$991 90
1908. Amount collected .....	1,091 52	4,131 80	.....	.....	5,978 57
1909. Amount collected .....	711 40	2,218 70	1,857 50	\$17 25	5,437 85
1910. Amount collected .....	4,726 40	2,160 75	1,449 50	650 25	8,370 75
1911. Amount collected .....	1,037 89	2,280 75	1,260 50	34 10	4,637 84
1912. Amount collected .....	3,823 22	2,059 75	1,237 00	48 70	7,432 34
1913. Amount collected .....	5,215 29	1,619 00	1,150 00	312 37	8,870 87
1914. Amount collected .....	7,223 84	1,495 25	1,393 00	886 58	10,209 59
1915. Amount collected .....	5,085 28	1,495 25	1,393 00	97 50	8,274 32
1916. Amount collected .....	4,479 39	1,368 50	1,227 50	593 04	7,271 77
Total .....	\$33,891 23	\$19,159 15	\$11,285 00	\$3,120 42	
Total amount paid into the City Treasury 1907-1916 .....					\$67,455 80

\* Litigation account — amount received in costs and fees and remaining on deposit with the City Chamberlain awaiting determination of pending litigation December 31, 1916, \$3,373.80.

## LXXXVII. RECAPITULATION

## INTERBOROUGH RAPID TRANSIT COMPANY — CONTRACT No. 3

DISBURSEMENTS BY THE CITY OF NEW YORK AND THE INTERBOROUGH RAPID TRANSIT COMPANY  
ON ACCOUNT OF CITY-OWNED LINES

ROUTES	Total disbursements to December 31, 1915	Disbursements for year 1916	Total disbursements to December 31, 1916
Seventh Ave. Line, Rt. 4 and 38.....	\$8,971,476 44	\$3,932,243 31	\$12,903,719 75
Lexington Ave. Line, Rt. 5, Secs. 6-15..	23,901,780 66	2,657,371 72	26,559,152 38
Jerome Ave., Rt. 16.....	1,963,246 26	283,874 52	2,250,120 78
White Plains Road, Rt. 18 and 180th St. Yd.....	1,654,737 38	291,002 57	1,945,739 95
Southern Boulevard-Westchester Ave., Rt. 19 and 22.....	3,388,739 81	1,160,167 64	4,548,907 45
Astoria, Woodside & Corona, Rt. 36 and 37.....	4,033,635 13	108,933 43	3,924,701 70
42d Street Connection, Rt. 43 and 26... 1,217,470 57		917,996 82	2,135,467 39
Park Place, William Street, Clark Street, Rt. 48.....	2,878,872 56	4,846,051 07	7,724,923 63
Steinway Tunnel, Manhattan, Rt. 26....	369,885 10	26,049 02	395,934 12
Steinway Tunnel, Queens, Rt. 50.....	578,443 07	66,275 85	644,718 92
Steinway Duct Line, Rt. 26 and 50.....	.....	20,274 62	20,274 62
Eastern Parkway, Rt. 12 and Rt. 29.....	1,422,157 64	3,126,265 90	4,548,423 54
Montague-Clark-Fulton, Station, Rt. 33, Section 3.....	143,543 01	517,688 19	661,231 20
Station finish.....	45,300 59	1,000,089 02	1,045,389 61
Real estate (City).....	375,453 19	1,168,093 15	1,543,546 34
Real estate (Company).....	1,409,686 32	459,459 21	1,869,145 53
Track material.....	.....	1,349,444 28	1,349,444 28
Track installation.....	.....	212,570 52	212,570 52
Broadway & Park Place, Sec. 2, Rt. 6... ..	.....	22,065 06	22,065 06
Maintenance.....	.....	77 71	77 71
	<b>\$52,354,427 73</b>	<b>\$21,951,126 75</b>	<b>\$74,305,554 48</b>

NOTE.— Total vouchers drawn upon Interborough Rapid Transit Company for payment to contractors included in above amounts..... \$28,164,949 90  
 Total contribution of Interborough Rapid Transit Company to City for real estate included above..... 1,869,145 53  
 Total vouchers payable by the City from funds furnished by Interborough Rapid Transit Company for Station Finish and 180th Street Yard..... 114,706 68  
**\$30,148,802 11**

## LXXXVIII. RECAPITULATION

NEW YORK MUNICIPAL RAILWAY CORPORATION — CONTRACT No. 4  
DISBURSEMENTS BY THE CITY OF NEW YORK AND NEW YORK MUNICIPAL RAILWAY CORPORATION ON ACCOUNT OF CITY-OWNED LINES

ROUTES	Total disbursements to December 31, 1915	Disbursements for year 1916	Total disbursements to December 31, 1915
Brooklyn Loop Lines.....	\$12,941,607 81	\$4,850 00	\$12,946,457 81
Brooklyn-Fourth Avenue.....	19,405,589 90	100,928 45	19,506,518 35
Broadway, Rt. 5, Secs. 1-4.....	9,814,003 46	1,074,003 24	10,888,006 70
Canal Street, Rt. 20.....	835,991 85	666,901 82	1,502,893 67
†Connections at Canal Street.....	567,783 59	85,102 69	652,886 28
Broadway-59th Street, Rt. 4 and 36.....	3,571,082 61	3,371,753 91	6,942,836 52
Whitehall-East River-Montague.....	2,232,711 86	3,890,014 77	6,122,726 63
New Utrecht Avenue, Rt. 39.....	1,447,524 35	234,515 68	1,682,040 03
Gravesend Avenue Line, Rt. 49.....	42,363 66	757,457 97	779,821 63
Flatbush Avenue-Eastern Parkway, Rt. 12, St. Felix Connections.....	773,290 05	591,252 32	1,364,542 37
14th Street East.....		466,777 25	466,777 25
Station Finish, Contract No. 4.....	243,961 91	440,364 93	684,326 84
Track material.....	616,853 05	278,367 00	895,220 05
Installation of tracks.....	196,192 31	97,078 76	293,271 07
Real estate (City).....	*1,624,475 05	901,419 04	2,525,894 09
Real estate (Company).....	4,416,599 95	40 00	†4,416,639 95
Blackwell Island Tunnel.....		120,638 70	120,638 70
Queens Lines, Rt. 36 and 37.....		503,235 84	503,235 84
	\$58,730,031 41	\$13,584,702 37	\$72,314,733 78

NOTE.—\*\$774.42 refunded by Transit Development Co. and deducted from 1914 disbursements.

† Includes contribution by the New York Municipal Railway Corporation, as follows:

Canal Street Connections, Rt. 5, Sec. 2-A and 3.....	\$514,733 13
Crossover, south of Canal Street.....	58,000 00
Crossover, Spring Street.....	79,553 15

† Real estate.....\$352,883 28

4,416,639 95

\$5,069,526 23

LXXXIX. RECAPITULATION  
GENERAL SUMMARY OF DISBURSEMENTS, 1894-1916

	STATE FUND	SPECIAL REVENUE BOND FUND	CONSTRUCTION FUNDS				Total
	General Fund disbursements	General Fund disbursements	Manhattan-The Bronx Construction Fund disbursements	Brooklyn-Manhattan Construction Fund disbursements	Contract No. 3, City of N. Y.-I. R. T. Co.	Contract No. 4, City of N. Y.-Y. M. R. Corp.	
Total amount disbursed by the Board of Rapid Transit Railroad Commissioners from June 18, 1894 to June 30, 1907.....		\$4,520,753 55	\$46,774,795 13	\$2,690,255 22	.....	.....	\$53,985,803 90
Total amount disbursed by the Public Service Commission for the First District, New York, from July 1, 1907 to December 31, 1916.....	\$866,703 95	18,198,559 49	3,998,702 58	3,000,285 95	\$74,305,554 48	\$72,315,508 20	172,685,314 65
	\$866,703 95	\$22,719,313 04	\$50,773,497 71	\$5,690,541 17	\$74,305,554 48	\$72,315,508 20	
Grand total.....							\$226,671,118 55

Respectfully submitted,  
H. A. D. HOLLMANN, Auditor.



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